

The Mechanical Arts and *Poiesis* in the Philosophy and Literature of the Twelfth-Century Schools

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This dissertation is submitted for the degree of Doctor of Philosophy

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The ‘mechanical arts’ or *artes mechanicae* were first named as a part of Philosophy in Hugh of Saint-Victor’s *Didascalicon* (1120s). They were identified as seven arts (fabric making, armament, commerce, agriculture, hunting, medicine, and theatrics), and positioned as a parallel to the seven liberal arts. Their inclusion in the *Didascalicon* has been taken by previous historians to signal a new interest in science and engineering, an effort to ‘give intellectual status to technology for the first time’.

This study reconsiders the significance of the mechanical arts for schoolmen working in northern France in the twelfth century. It argues that while this category designated a set of everyday technologies, it also had a more covert, imaginative currency for certain authors – as an image or *exemplum* for the process of learning. Its procedures and activities could be held up as a mirror to those of the liberal and especially verbal arts, picturing these in the terms of *poiesis* – an ancient model for philosophy as ‘sense making’ or ‘world making’. This metaphorical utility of the *artes mechanicae* can be discerned in Hugh’s discussion, running underneath his more literal concern with the mechanical arts as everyday technologies. It was given fullest expression, I argue, in the later allegorical encyclopaedias of ‘Chartrian’ poets, Bernard Silvestris and Alan of Lille (1140s–80s).

The final part of the thesis discusses Geoffrey of Vinsauf’s *Poetria nova* (c. 1215). Here the mechanical arts are enlisted to represent the student of the verbal arts as a *technite*, a technician and theorist. Geoffrey’s work is often considered a *summa* of medieval thinking about poet-craft. But its recruitment of the mechanical arts to picture *theoretical* mastery also marks the end – and a reversal – of the lesser-known invocation of *mechanica* by twelfth-century authors, the one I trace here: which cast the author and scholar as a *maker* proper, a ‘poet’ in the ancient sense of that word.

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Introduction

I. The Mechanical Arts and *Poiesis* in the Twelfth-Century Schools

In his *Didascalicon* of the 1120s, Hugh of Saint-Victor (c. 1096–1141) was the first medieval encyclopaedist to make the *artes mechanicae*, ‘mechanical arts’, a valid component of Philosophy, *Scientia*. This category of arts (known in shorthand as *mechanica*) had first been named in a philosophical commentary of the ninth century by the theologian, John Scotus Eriugena (c. 800–877).¹ But Hugh – a teacher at the Abbey of Saint Victor in Paris – was the earliest scholar to elaborate on the category. He divided it up into seven individual *artes* – fabric making, armament, commerce, agriculture, hunting, medicine, and theatrics – to parallel the traditional seven liberal arts (made up of three verbal arts known as the *trivium*: grammar, rhetoric, and dialectic; and four mathematical arts known as the *quadrivium*: arithmetic, geometry, music, and astronomy).² While the liberal arts liberate man from material and sensible concerns, the mechanical arts are wholly concerned with the material realm, which they adapt to human utility and comfort.

Hugh introduced the mechanical arts by positioning them as the lowest of three works, *opera*, making up the cosmos:

The work of God, the work of nature, and the work of the artificer, who imitates nature. The work of God is to create that which was not ... the work of nature is to bring forth into actuality that which lay hidden ... the work of the artificer is to put together things disjoined or to disjoin those put together. Among these three works ... the human work which is not nature, but imitates nature is fitly called mechanical, that is adulterate.³

¹ This was Eriugena’s commentary on Martianus Capella’s *De nuptiis Philologiae et Mercurii*, discussed in depth in Chapter One (and passim).

² Hugh of Saint-Victor, *Didascalicon* 2.20. I use the Latin edition by Brother Charles Henry Buttimer (Washington, D. C. 1939), pp. 38–39. I use the translation by Jerome Taylor, *The Didascalicon of Hugh of Saint Victor: A Medieval Guide to the Arts* (New York 1961), pp. 74–75.

³ ‘... opus Dei, opus naturae, opus artificis imitantis naturam. opus Dei est, quod non erat creare ... opus naturae, quod latuit ad actum producere ... opus artificis est disgregata coniungere vel coniuncta segregare ... neque enim potuit vel terra caelum creare, vel homo herbam producere, qui nec palmum ad staturam suam addere potest. in his tribus operibus convenienter opus humanum, quod natura non est sed imitatur naturam, mechanicum, id est, adulterinum nominatur.’ *Didascalicon* 1.9, ed. Buttimer, p. 16; trans. Taylor, p. 55.

He explains that unlike animals, man was brought forth ‘naked and unarmed’, and has to work ‘from nature’s example’, ‘to devise for himself by his own reasoning those things naturally given to all other animals’.⁴ Nature left man bereft because ‘man’s reasoning shines forth much more brilliantly in inventing these very things than ever it would have had man naturally possessed them.’⁵ ‘Nor is it without cause’, Hugh says,

that the proverb goes, ‘ingenious want hath mothered all the arts.’ Want is that which has devised all that you see most excellent in the occupations of men. From this the infinite varieties of painting, weaving, carving, and founding have arisen, so that we look with wonder not at nature alone but at the artificer as well.⁶

In Hugh’s account of the mechanical arts, which we will come back to in full, Winthrop Wetherbee has observed, ‘it is easy to feel that we have located that Promethean strain in twelfth-century thought, the *humanisme intégral* that views all human skills as means to redemption.’⁷ Such readings are implicit, and often explicit, in works by historians of medieval progress and technology, a field of inquiry that developed in earnest from the middle of the twentieth century, as historians sought to backdate the modern triumph of science and technology. The twelfth century seemed to mark a turning point in the development of man’s utilitarian attitude towards nature. One historian who promoted this conception was Lynn Townsend White, who opened his 1978 book of essays *Medieval Religion and Technology* with the observation that in the years between 1925 and the time of writing, the Middle Ages ‘has changed almost beyond recognition’.⁸ While at school White learned ‘there wasn’t any’ medieval science. By the seventies, he says, ‘it has become almost axiomatic that medieval science, from the late 11th century onward, represents the earliest stratum of our present scientific movement’.⁹ The twelfth century saw the ‘transition from the hierarchical-qualitative science of tradition to the egalitarian-quantitative

⁴ ‘solus homo inermis nascitur et nudus. oportuit enim ut illis, quae sibi providere nesciunt, natura consuleret, homini autem ex hoc etiam maior experiendi occasio praestaretur, cum illa, quae ceteris naturaliter data sunt, propria ratione sibi inveniret.’ Ibid., Buttimer, p. 17; Taylor, p. 56.

⁵ ‘multo enim nunc magis enitet ratio hominis haec eadem inveniundo quam habendo claruisset.’ Ibid.

⁶ ‘nec sine causa proverbium sonat quod *Ingeniosa fames omnes excuderit artes*. hac equidem ratione illa quae nunc excellentissima in studiis hominum vides, reperta sunt. hac eadem pingendi, texendi, sculpendi, fundendi, infinita genera exorta sunt, ut iam cum natura ipsum miremur artificem.’ Ibid.

⁷ Winthrop Wetherbee, ‘Philosophy, Cosmology and the Twelfth-Century Renaissance’ in *A History of Twelfth-Century Western Philosophy*, ed. by Peter Dronke (Cambridge, UK 1988), pp. 21–53, at 23.

⁸ Lynn White, *Medieval Religion and Technology: Collected Essays* (Berkeley 1978), p. xi.

⁹ Ibid.

science of modern times.’¹⁰ The monastic tradition of labour evolved, with the help of ‘new’ Aristotelian empiricism, into a fully technological revolution.

White cited Hugh’s inclusion of the mechanical arts as the ultimate statement of this transition. According to White, Hugh ‘believed ardently that the entire traditional concept of philosophy was pernicious, partly because it excluded from consideration all that we of the twentieth century would call engineering.’¹¹ His aim was to give ‘intellectual status to technology’ for the first time.¹² Scholars who followed in this vein include Jacques Le Goff, George Ovitt, and Elspeth Whitney. Le Goff wanted to emphasise the forces of innovation at work in the twelfth and thirteenth centuries.¹³ He saw Hugh’s inclusion of the mechanical arts as an indicator of a general recasting of labour and technology as positive means for salvation in the socially and politically progressive atmosphere of the twelfth century.¹⁴ George Ovitt likewise identified the mechanical arts with the growth of a medieval technological mindset out of the older monastic principle that *laborare est orare*.¹⁵ In 1990, Elspeth Whitney drew the findings of scholars such as White, Le Goff, and Ovitt together to provide the first ‘detailed and coherent assessment of what might properly be called the philosophy of technology in the Middle Ages’.¹⁶ For Whitney, whose essay remains the single-most nuanced treatment of the place of the mechanical arts in medieval categorisations of knowledge, Hugh is again something of a Promethean hero, who ‘goes much further towards a comprehensive understanding of technology as a distinct sphere of human activity than do any of his sources.’¹⁷

The ‘Exemplary’ Mechanical Arts

¹⁰ Ibid., p. 39. See also White, ‘Historical Roots of our Ecologic Crisis’, *Science*, New Series, 155, 3767 (1967), pp. 1203–1207. White was influenced by the research into medieval technological change carried out from the 1920s by Richard Lefebvre des Noëttes (e.g. *La force motrice animale à travers les âges*, Paris 1924).

¹¹ White, *Medieval Religion and Technology*, p. 325.

¹² Ibid., p. 328.

¹³ Jacques le Goff, ‘Licit and Illicit Trades’ and ‘Trades and Professions’ in *Time, Work and Culture*, trans. by Arthur Goldhammer (Chicago 1980), pp. 58–62 and 116–121.

¹⁴ Ibid.

¹⁵ George Ovitt, ‘The Status of the Mechanical Arts in Medieval Classifications of Learning’, *Viator* 14 (1983), pp. 89–106, at 92. A similar view was taken by Franco Alessio, ‘La filosofia e le “artes mechanicae” nel secolo XII’, *Studi Medievali* ser. 3, 6 (1965), pp. 110–129.

¹⁶ Elspeth Whitney, ‘Paradise Restored: The Mechanical Arts from Antiquity through the Thirteenth Century’, *Transactions of the American Philosophical Society* 80, Part 1 (1990), pp. 1–169, at 1.

¹⁷ Ibid., p. 88.

Outside of the history of medieval science and technology, the mechanical arts are rarely discussed in scholarship on the Middle Ages. Those working in the fields of medieval art, literature, philosophy, and theology, have on the whole had little reason to refer to this ‘category’ – and for obvious reasons.¹⁸ Beyond the odd cursory allusion, the category is seldom named in texts outside of the encyclopaedic tradition. There was also no medieval ‘iconography’ of the mechanical arts – as there was for the liberal arts (on cathedral facades, in manuscripts, and so on) – that would indicate their importance as an independent theme.¹⁹ The present thesis does not claim to recover any lost sources, textual or visual, which fill this blank in the discourse. So, what does it hope to say about this category that has not already been said?

In a sense it calls for a reorientation of attention. Instead of looking at the mechanical arts as a fixed set of activities, that are either mentioned or not mentioned in medieval sources, it explores the possibility that the mechanical arts, or ‘the mechanical’, also had a more covert currency, as a metaphor, or *exemplum* for the process of learning – which was established in the *Didascalicon* itself, and elaborated in a family of works which came after it. This involves nothing like a ‘counter-survey’ of the mechanical arts, to challenge the exhaustive account of Whitney. Nor does it aim to disparage the study of these arts from the perspective of science and technology. Rather, it seeks to map the mechanical arts’ significance – as a *kind* of knowledge – in the wider pedagogical or encyclopaedic ‘imaginary’, that has been obscured by the emphases of previous scholars.

While it offers a stark contrast to the established view of the *artes mechanicae*, this argument does speak to a recent impetus in medieval studies – that (until now) has left Hugh’s category untouched – to re-stress the imaginative and exemplary significance of the ‘crafts’ in medieval intellectual culture.²⁰ In her 1998 book, *The Craft of Thought*, Mary Carruthers influentially

¹⁸ An exception is Ellie R. Truitt, who has recently spoken briefly about the mechanical arts in relation to fictional automata in the Middle Ages, in her *Medieval Robots: Mechanism, Magic, Nature, and Art* (Philadelphia 2015), pp. 43–47.

¹⁹ For the medieval iconography of the liberal arts and other educational themes see Laura Cleaver, *Education in Twelfth-Century Art and Architecture* (Woodbridge, UK 2016), esp. pp. 7–36; and the classic essay by Adolf Katzenellenbogen ‘The Representation of the Seven Liberal Arts’, in *Twelfth Century Europe and the Foundations of Modern Society*, ed. by Marshall Clagett, Gaines Post, and Robert Reynolds (London 1966), pp. 35–59. (Further references for this topic are given below, p. 94, n. 90). While there is no iconography of the ‘mechanical arts’ *per se*, the thesis does include contemporaneous images which refer to the arts in ways which illuminate the core analysis.

²⁰ The works of Mary Carruthers have arguably spearheaded this impetus (see also subsequent note). In the field of literature studies, Lisa H. Cooper has explored artisanal metaphors, in her *Artisans and Narrative Craft in Late Medieval England* (Cambridge, UK 2014). Paul Binski has emphasised the importance of technique to the affective power of medieval artefacts – their rhetorical persuasiveness – and craft as a model for rhetorical invention and persuasion itself. With regard to this latter intervention in particular, I am indebted to his works: which include

claimed that ‘monastic education is best understood ... on [an] apprenticeship model, more like masonry or carpentry than anything in the modern academy’.²¹ Learning in schools and monasteries ‘involved *making* mental images or cognitive “pictures” for thinking and composing.’²² Carruthers drew attention to copious passages in medieval texts from the period 400–1200, in which a craft or *techne* – such as milling, or weaving – was used to envisage and encourage the creation of thoughts by the ‘machine of the mind’, *machina mentis*.²³

Carruthers’ argument that ‘monastic meditation is the craft of making thoughts about God’ should have repercussions for the study of the mechanical arts. Indeed, having said how tempting it is to find in Hugh’s treatment of mechanics ‘that Promethean strain in twelfth-century thought’, Winthrop Wetherbee himself went on to say that what Hugh in fact valued was *not* ‘the practice of the mechanical arts, but the *ratio* in the light of which they become sources of a knowledge that leads ultimately to God.’²⁴ Hugh’s thinking, he continued, ‘is in a tradition which goes back through Augustine to antiquity.’²⁵ However, Wetherbee makes these rather enigmatic remarks in the context of a broader overview of twelfth-century philosophy: he gives no real clues as to what an alternative, less literal assessment of the mechanical arts might entail.

The present study seeks to fill this lacuna: to bring our account of the mechanical arts up to date and into line with our improved understanding of the imaginative potential of ‘craft’ in medieval ascetic educational psychology.²⁶ This does not mean merely showing how those individual crafts which Hugh discusses appeared in diverse contexts for metaphorical purposes, or producing a new body of craft imagery to augment that afforded by Carruthers. It means analysing more closely how the category of *mechanica* was discussed, what ‘space’ in the philosophical imagination it filled, from its appearance in the ninth century, to its reintroduction and

Gothic Wonder: Art Artifice and the Decorated Style, 1290-1350 (Cambridge, MA 2014); ‘Working by Words Alone: The architect, scholasticism and rhetoric’ in *Rhetoric Beyond Words: Delight and Persuasion in the Arts of the Middle Ages*, ed. by Mary Carruthers (Cambridge, UK 2010), pp. 14–51; ‘Notes on Artistic Invention in Gothic Europe’, *Intellectual History Review* 24, 3 (2014), pp. 283–300; and the most recent ‘Medieval Invention and its Potencies’, *British Art Studies* 6 (2017), at <https://doi.org/10.17658/issn.2058-5462/issue-06/pbinski>.

²¹ Mary Carruthers, *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400–1200* (Cambridge, UK 1998), p. 2. See also Carruthers’ *The Book of Memory: A Study of Memory in Medieval Culture* (Cambridge, UK 2008). Further publications by Carruthers are cited in the course of the thesis and listed in the bibliography.

²² Carruthers, *The Craft of Thought*, p. 3. My emphasis.

²³ For the particular *topos* of the *machina mentis*: *ibid.*, pp. 92–94.

²⁴ Wetherbee, ‘Philosophy, Cosmology’, p. 23.

²⁵ *Ibid.*

²⁶ I have borrowed the modernised (but I think helpful) term ‘educational psychology’ from the title of an article by Paul Gehl, ‘Mystical Language Models in Monastic Educational Psychology’, *Journal of Medieval and Renaissance Studies* 14 (1984), pp. 219–243.

elaboration in the twelfth.²⁷ Such analyses reveal that the mechanical arts were not confined strictly to the domain of medieval engineering, but also belonged to – or were recruited in service of – a *poetic* vision of learning, deeply rooted in the medieval schools. They could be taken, I suggest, as activities for envisaging and idealising man’s philosophical education – at this time essentially equivalent to his verbal or ‘trivial’ education – as a ‘making sense’ of creation, through the co-operation of perception and imagination: a *paideic* imperative enshrined and elaborated in the Platonic, Ciceronian, and Carolingian sources on which Hugh and his contemporaries thoroughly depended.²⁸

Before coming back to Hugh, and the successive ‘family’ of works that I think developed this ‘exemplary’ interpretation of the arts, it is necessary to explain my use of the term ‘poetic’ for the schools’ ‘vision of learning’. As a result of the renewed and broad-ranging influence of Plato’s *Timaeus* in particular, the twelfth-century pedagogical project was deeply informed by the ancient epistemological model of *poiesis*, ‘making’.²⁹ The importance of this model to philosophy prior to the rise of thirteenth-century scholasticism has been insufficiently studied, with the exception of several publications from the past two decades. Catherine Brown, for example, drew attention in an eloquent study of 1998 to the ‘poetics of didacticism’ in the 1100s: ‘teaching in [didactic] texts is poetic in the etymological sense: *poiesis* is (a) making, and medieval didactic texts constantly and insistently show us this making of *doctrina* in textual and hermeneutic process.’³⁰

Similarly, theologian M. B. Pranger has attempted to uncover the ‘poetics of monasticism’, which he argues has been obscured by concentration on the development of later scholastic theology, which saw the bearing of the imagination on spiritual discovery reduced.³¹ At the time of writing,

²⁷ The ninth-century appearance of the term *artes mechanicae* is discussed in depth in Chapter One.

²⁸ While the liberal arts curriculum, making up ‘philosophy’, comprised both trivium (grammar, rhetoric, dialectic) and quadrivium (arithmetic, geometry, music, astronomy), it is understood that the trivium was the traditional core and basis of education, at least until the twelfth century. When ‘philosophy’ is discussed in this dissertation, it refers to a ‘trivial version of philosophy’. Thus, I sometimes use ‘philosophy’ interchangeably with ‘verbal art’, ‘trivial art’, or even ‘rhetoric’: the last of which could designate both the third art of the trivium, and act as a near synonym for the trivium as a whole (involving as it does the principles of both grammar and argumentation). I am indebted to Nicolette Zeeman for her advice on terminology here, and particularly on the legitimacy of speaking about a ‘trivial version of philosophy’ in this period.

²⁹ The renewal of interest in this work from the eleventh century has been discussed by Margaret Gibson, ‘The Study of the *Timaeus* in the Eleventh and Twelfth Centuries’, *Pensamiento* 25 (1969), pp. 183–194; and more recently by Anna Somfai, ‘The Eleventh-Century Shift in the Reception of Plato’s *Timaeus* and Calcidius’s *Commentary*’, *Journal of the Warburg and Courtauld Institutes* 65 (2002), pp. 1–21. See also Paul Edward Dutton, ‘Medieval Approaches to Calcidius’, in *Plato’s Timaeus as Cultural Icon*, ed. by Gretchen J. Reydam-Schils (Notre Dame, IN 2003), pp. 183–205.

³⁰ Catherine Brown, *Contrary Things: Exegesis, Dialectic, and the Poetics of Didacticism* (Stanford 1998), p. 10.

³¹ M. B. Pranger, *The Artificiality of Christianity: Essays on the Poetics of Monasticism* (Stanford 2003), p. 3.

a volume of essays *Medieval Thought Experiments*, edited by Phil Knox, Daniel Reeve, and Jonathan Morton is in production which promises to ‘consider how intellectual problems were approached – if not necessarily resolved – through the kinds of hypothetical enquiry found in poetry and in other texts that employ fictional or imaginative strategies.’³² The drift of all these studies has been to present poetic ‘making’ not just as a literary style, but as a model *for* philosophy. This study is party to that effort. It seeks to recover the poetic thinking or thought-model of medieval philosophers – an especially apt topic, perhaps, for historians of the Middle Ages working in the ‘post-truth age’.³³

Now we need to define more carefully what is meant by *poiesis*. While it is most obviously the root of our ‘poetry’, this term referred in ancient (specifically pre-Socratic) terminology to any act which transforms and continues the world.³⁴ It was exemplified by the crafts themselves. In fact, as Penelope Murray has shown, craftspeople – practitioners of what would become the ‘mechanical arts’ – were known in the classical world as *poietai*, as well as *technites* (or ‘technicians’).³⁵ At the same time, *poiesis* described mental production. Writers and philosophers followed the *poietai*: thought, argument and writing involved a mental gathering and reworking of natural ‘sense’ material that mirrored the ‘remaking’ of nature which goes into (say) carpentry or weaving. For Plato and his predecessors, then, the crafts were in many ways paradigmatic of thought. Their hands-on procedures represented a ‘poetic’ or poietic ideal on which thinking, reasoning, and the attainment of wisdom should be modelled.

³² Phil Knox, Jonathan Morton, and David Reeve, eds, *Medieval Thought Experiments: Poetry, Hypothesis, and Experience in the Middle Ages* (Turnhout; forthcoming 2018)

http://www.brepols.net/Pages/ShowProduct.aspx?prod_id=IS-9782503576213-1 [accessed 6 August 2018].

³³ Other recent studies which might imply a move in this direction (though which do not mention *poiesis*) are Aden Kumler’s *Translating Truth: Ambitious Images and Religious Knowledge in Late Medieval France and England* (New Haven 2011) and Michelle Karnes, *Imagination, Meditation, and Cognition in the Middle Ages* (Chicago 2011). Outside of medieval history, Tita Chico’s *The Experimental Imagination: Literary Knowledge and Science in the British Enlightenment* (Stanford 2018) points to an up-to-the-minute surge of interest in the science-literature/truth-imagination nexus across the humanities.

³⁴ In Plato’s *Symposium* (205b-c), Diotima explains that *poiesis* refers to ‘any activity which causes something to come into being from non-being, and therefore covers the productions of all the technai’ (even if it is used in common parlance for writers of poetry, in our sense). For commentary on this see Penelope Murray, ‘Poetic Inspiration’, in *The Blackwell Companion to Ancient Aesthetics*, ed. by Pierre Destrée and Penelope Murray (Chichester, UK 2015), pp. 158–174, at 167. The pre-Socratic roots of *poiesis* are discussed most thoroughly, and in terms prescient to the present argument, by Barry Sandywell, *The Beginnings of European Theorizing: Reflexivity in the Archaic Age*, 3 vols (London 1996), 2: pp. xiv and 306–307.

³⁵ Murray, ‘Poetic Inspiration’, p. 167. The terms *techné* and *technites* prove more apposite for the crafts as understood in Aristotelian texts and later medieval epistemology. This is one of the main themes of my final chapter and is introduced below, p. 14.

This ancient epistemological ideal was, I will argue (following Brown and Pranger), entrenched in twelfth-century philosophy, and second nature to Hugh of Saint-Victor. It informed his conception of the ‘mechanical arts’, *not only* as a set of distinct, ‘real-life’ technologies, but as a type of knowledge that could be used to exemplify all ‘human work’ (*opus humanorum*) – to evoke the *poieticism* of philosophy as a whole. Kathryn Lynch, while not interested in the ancient model of *poiesis per se* has (helpfully for us) characterised the ‘psychology of knowing’ which belonged to Hugh and his contemporaries in the schools as a ‘mechanical psychology’: consisting of the belief that, ‘by the *forming* [or making] of analogies between the material and the divine, the spirit could journey home to heaven.’³⁶

A precedent for the shape of my argument can be found in James Simpson’s book *Sciences and the Self in Medieval Poetry*.³⁷ This study has as one of its central aims the revelation of (apparently) conflicting epistemological systems within single medieval texts. Specifically, Simpson was interested in how (in Alan of Lille and John Gower) ‘psychological hierarchies [might] interact with disciplinary hierarchies’.³⁸ Poems such as theirs, which describe (and inspire) the formation of the soul, might reveal ‘the very structure of the disciplines’, ‘their true relations’, in a fashion which (because true to a *psychology*) contradicts an ‘official’ hierarchy of the sciences, as asserted elsewhere in the text, or which seems to be conventional to the author.³⁹ This approach lends authority to, and a critical context for, my own: my argument also posits the co-existence of epistemologies. Simpson acknowledges that games might be played with the inter-relation of the ‘theoretical’ and the ‘practical’.⁴⁰ But his focus in the analyses of Alan and Gower is on the poetic ‘revision’ of the traditional ‘encyclopaedic’ hierarchy to a ‘psychological’ hierarchy, which leads from ethics, to politics, to cosmology.⁴¹ My focus is by contrast (but also complementarily) on the implicit interaction of the liberal and mechanical.⁴² I want to show that in the light of a psychology informed by *poiesis*, these two ‘categories’ (specifically the ‘mechanical’ and the ‘trivial’) necessarily overlap and begin to define one another. In the

³⁶ Kathryn Lynch, *The High Medieval Dream Vision: Poetry, Philosophy, and Literary Form* (Stanford 1998), pp. 28 and 26 (my emphasis and parenthesis).

³⁷ James Simpson, *Sciences and the Self in Medieval Poetry: Alan of Lille’s Anticlaudianus and John Gower’s Confessio amantis* (Cambridge, UK 1995).

³⁸ *Ibid.*, p. 15.

³⁹ *Ibid.*, p. 14.

⁴⁰ *Ibid.*, p. 12.

⁴¹ *Ibid.*, p. 14.

⁴² Nearly, though not exactly, equivalent to the practical and theoretical – which implies ‘*doing*’ and ‘*thinking*’ as opposed to ‘*making*’ and ‘*thinking*’ (the latter of which is my emphasis).

Didascalicon, liberal or trivial art requires a decidedly ‘mechanical psychology’, and this complicates, and enriches, the status and encyclopaedic ‘boundaries’ of *mechanica*.

Hugh of Saint-Victor and the Chartrians: The Structure of the Argument

To make this case, for the wider significance of the mechanical arts in exemplifying the *artifice of thought* – the thought involved in the pursuit of wisdom via the trivial arts – I offer a thorough re-assessment of Hugh’s treatment of this category in the *Didascalicon*.⁴³ In the first chapter, we will see how his descriptions of the ‘human devising’ of the mechanical artist, and the ‘wonderment’ due to mechanical artefacts, cited in my opening, are part and parcel of a wider interest, going back to Plato and Cicero – and governing the wider vision of the *Didascalicon* – in how man ‘makes’ knowledge from nature. We attend, more specifically, to Hugh’s source for the term *artes mechanicae*: a philosophical and allegorical commentary by John Scotus Eriugena, mentioned in the opening to this introduction.

This commentary situated the arts within an intellectual marriage of wisdom and eloquence. Its importance for the significance of the arts in twelfth-century philosophy has been glossed over by previous scholars, as a mere prelude to the arts’ ‘technological’ elaboration by Hugh.⁴⁴ I try to address that neglect – suggesting that Eriugena, himself sympathetic to a ‘poietic’ model of philosophy, might be seen to have included the ‘mechanical arts’ as a gesture to the *psychological craft*, and cultivating power, of eloquence, that went on to inform Hugh of Saint-Victor.

The following two chapters propose that this more imaginative aspect of the arts was elaborated by two later authors of the twelfth-century, rarely cited in previous histories of the medieval mechanical arts (conventionally understood), but who are well known to medievalists for their more obviously poetic approach to philosophy: Bernard Silvestris (d. 1160) and Alan of Lille (c. 1123–1202/3). In an uncommon concession to a potentially larger agenda at play in Hugh’s discussion of the *artes mechanicae*, Elspeth Whitney says in her survey that Hugh’s interest

⁴³ It is worth saying that this thesis does not consider the ‘next’ purely encyclopaedic discussion of the mechanical arts after Hugh, by Spanish author Domingo Gundisalvo (Dominicus Gundissalinus), in the 1150s or 1160s. Influenced by Arabic sources, Domingo used the designation ‘mechanical arts’ to discuss devices and instruments more than the art of the artificer. His view of mechanics, according to Elspeth Whitney ‘existed side by side’ with Hugh’s without either influencing each other. ‘Paradise Restored’, p. 111. He is discussed by Whitney in her survey at pp. 132–137; and in Ovitt’s ‘The Status of the Mechanical Arts’, pp. 97–100.

⁴⁴ See below, p. 32.

seems ‘in some respects representative of twelfth-century humanism and appears in the work of Bernard Silvestris and the author of the *Philosophia* attributed to William of Conches and others.’⁴⁵ This ‘twelfth-century humanism’ is often linked to the Cathedral School of Chartres – where Bernard Silvestris and Alan of Lille both seem to have spent time studying or teaching.⁴⁶

The School of Chartres is famed for having developed what Édouard Jeuneau has termed, more specifically, a ‘scientific and grammatical humanism’.⁴⁷ A dual emphasis on verbal training, and on the discovery of truths through perception of nature, according to Jacques le Goff, ‘determined the Chartrian spirit, a spirit of curiosity, observation, and investigation which, fed on Greco-Arab knowledge, was to flourish and expand.’⁴⁸ Some of these views have been criticised for giving an overly ‘romanticised’ view of the School’s pre-eminence.⁴⁹ In reality its walls were porous, and its members and associates were closely in touch with other schools of northern France and those in Paris, such as the Abbey of Saint-Victor, all within two hundred miles of one another (figure 1).⁵⁰ As Lynch has pointed out, in terms of the psychology and epistemology of Paris and Chartres, ‘the divergences are not as significant as the similarities.’⁵¹ Yet scholars of Chartres, or those associated with this centre, undeniably elaborated on the role of the imagination in scientific enquiry and pedagogy, less explicit in works by those outside its influence, such as Hugh. Chartres remains a convenient label for a circle of men, and works, that concentrated to an unprecedented extent on the ‘psychological aspect of the philosopher’s experience’.⁵²

Largely responsible for this concentration was the enormous attention given to the *Timaeus* at Chartres. Wetherbee says the School considered this work, available via the Latin translation of

⁴⁵ Whitney, ‘Paradise Restored’, p. 92.

⁴⁶ Bernard was a master at the neighbouring School of Tours, but is thought to have had strong links with Chartres (see below, p. 54). Alan is thought to have studied at the School in the 1140s: below, pp. 76–77.

⁴⁷ Édouard Jeuneau, *Rethinking the School of Chartres* (Toronto 2009), p. 65.

⁴⁸ Jacques le Goff, *Intellectuals in the Middle Ages* (Oxford 1957), p. 48 (my emphasis).

⁴⁹ I refer specifically to Richard W. Southern, who argued that ‘the importance of the school of Chartres has been greatly exaggerated’ in two articles: ‘The Schools of Paris and the School of Chartres’ in *Renaissance and Renewal in the Twelfth Century*, ed. by Giles Constable and Robert L. Benson (Oxford 1982), pp. 113–137, at 113; and his earlier ‘Humanism and the School of Chartres’, in *Medieval Humanism and Other Studies* (Oxford 1970), pp. 61–85.

⁵⁰ Southern, ‘The Schools of Paris and the School of Chartres’.

⁵¹ Lynch, *The High Medieval Dream Vision*, p. 28.

⁵² Winthrop Wetherbee, *Platonism and Poetry in the Twelfth Century: The Literary Influence of the School of Chartres* (Princeton 1972), p. xi (for the convenience of the label) and p. 92 (for the ‘psychological aspect’).

Calcidius, the ‘flower of all philosophy’.⁵³ As I said above, Plato’s dialogue was the key conduit for the ancient model of learning as *poiesis*, ‘making’, to the Middle Ages. Its influence at Chartres (along with the influence of Eriugena’s commentary on ‘wisdom and eloquence’) underpins my argument for the importance of Hugh’s ‘mechanical arts’ to its schoolmen. Famously, the *Timaeus* described the formation of the world by a craftsman. This craftsman or *demiourgos* was an image for God, or the One. This much is familiar to medievalists. However, this craftsman – whose technique was named as *poiesis* – also stood for the soul’s task (embodied by the speaker, Timaeus) of *making of an image of God* from its perceptions of the natural world.⁵⁴ The myth was prefaced, by Timaeus, as an *eikos mythos*, what Calcidius translated as a *mediocris explanatio*, an ‘ordinary’ or ‘limited explanation’.⁵⁵ The craft of the demiurge was to be read as a manifestation and dramatisation of the conjectural, ‘ordinary’ and ‘limited’ craft of the philosopher-poet.

This reflexive connotation, not always emphasised in passing references to the text, has earned the *Timaeus* a reputation as one of Plato’s most ‘menacing’ works.⁵⁶ It was also critical to the medieval appreciation of the dialogue.⁵⁷ The *Timaeus* preserved and transported to the Middle Ages (to Eriugena, Hugh, and Chartres in particular) the ancient and essentially pre-Socratic notion: that ‘understanding’, even of the divine, is fundamentally poetic, in the sense of a ‘making’ – and thus epistemologically modelled by ‘ordinary’ craft, or crafts.

The currency of this idea at Chartres – through the *Timaeus* – meant that the field of *mechanica*, introduced by Eriugena’s ninth-century commentary, and picked up in the *Didascalicon*,

⁵³ Ibid., p. 29. Commentaries on the work were produced by Bernard of Chartres, the ‘intellectual forefather proper’ of the School, and its chancellor from 1119 to his death in 1124; and William of Conches. A major work of Thierry of Chartres, chancellor from 1142–50, is the *Hexaemeron*, which reconciled the creation account of Genesis with that of the *Timaeus*. For the revival of interest in this text from the eleventh century more generally, see above, p. 6, n. 29.

⁵⁴ Plato called the demiurge a *poieta* (ποιητήν) at *Timaeus* 28c, trans. by R. G. Bury, LCL 234 (Cambridge, MA 1929), pp. 50–51.

⁵⁵ Timaeus had told his audience (in Calcidius’ Latin), to ‘bear in mind that both I who speak and you who are acting as judges are human, and that when it comes to realities as sublime as these, even a limited explanation is a burden involving some considerable effort.’ (‘Memento enim tam me qui loquor quam vos qui iudicatis homines fore atque in rebus ita sublimibus mediocrem explanationem magni cuiusdam esse onus laboris.’) Calcidius, *On Plato’s Timaeus*, First Part, 29c–d, ed. and trans. by John Magee (Cambridge, MA 2016), pp. 44–45.

⁵⁶ Frank Grabowski, ‘Plato: *The Timaeus*’, *The Internet Encyclopaedia of Philosophy: A Peer-Reviewed Academic Resource*, <http://www.iep.utm.edu/> [accessed 27 May 2018].

⁵⁷ The importance of the ‘literary’ dimension of the *Timaeus* to medieval readers is attested in Tullio Gregory, ‘The Platonic Inheritance’, in *A History of Twelfth-Century Western Philosophy*, ed. by Peter Dronke, pp. 54–80, esp. at 57–59; and in John Magee’s ‘Introduction’ to *Calcidius*, pp. xii–xiii. See also Winthrop Wetherbee, ‘Philosophy, Commentary and Mythic Narrative in Twelfth-Century France’, in Jon Whitman, ‘Interpretation and Allegory: Antiquity to the Modern Period’ (Boston 2003), pp. 211–231, at 223–225.

assumed special metaphorical prominence. Scholars here wrote what might be called ‘allegorical encyclopaedias’ or ‘cosmological encyclopaedias’. These prioritised ‘psychological hierarchies’ of knowledge, over, or *as*, ‘disciplinary hierarchies’.⁵⁸ In such works, the figure of the mechanical artist, and the processes of mechanical art in general, are not only implicitly or occasionally exemplary of the ‘philosophico-poetic’ process (as they are in the *Didascalicon*). The mechanical artist and his craft are central within the allegory, as images for the mind or the liberal arts’ ‘work’ of coming to terms with nature.⁵⁹ We could say that within these school works, the ‘mechanical arts’ were reconsidered in line with their ancient definition as ‘poetic arts’ (*poiētikai*).

The first text which I think demonstrates this rethinking of mechanical art – as a way of visualising mental and verbal ‘making’ – is Bernard Silvestris’ *Cosmographia*, or *De universitate mundi*, completed between 1147 and 1148. This work, which forms the subject of Chapter Two, is often regarded as a twelfth-century *Timaeus*.⁶⁰ Like the *Timaeus*, rather than describing the parts of knowledge, it demonstrates or re-imagines the *process* of knowledge, or ‘knowing’. This made it unique for its time – when prosaic encyclopaedias, such as the *Didascalicon*, were the standard. Elaborating on the double meaning of Plato’s dialogue, the *Cosmographia* describes the composition of the cosmos by a range of ‘demiurgic’ personifications, but at the same time, this composition refers back to (and idealises) the ‘external’ work and psychology of the philosopher-poet. As Linda Lomperis has evocatively put it, ‘Poetic language itself simultaneously “weaves and unweaves” (“textit et retexit”) the fabric of the divinely written cosmic order.”⁶¹

As Lomperis’ description suggests, Bernard gives a key place to the lexicon of the mechanical arts. Yet the ‘mechanical’ imagery which animates his ‘limited’ poetic-philosophical procedure

⁵⁸ Simpson, *Sciences and the Self*, p. 15.

⁵⁹ The ‘philosophico-poetic tradition’ is used by James Simpson to identify the activity of the twelfth-century Chartrians in ‘The Economy of Involucrum: Idleness in *Reason and Sensuality*’, in *Through a Classical Eye: Transcultural and Transhistorical Visions in Medieval English, Italian, and Latin Literature in Honour of Winthrop Wetherbee*, ed. by Andrew Galloway and R. F. Yeager (Toronto 2009), pp. 390–412, at 392 and 407.

⁶⁰ According to Linda Lomperis, for example, ‘it would not be inaccurate to call it a kind of “medieval *Timaeus*” insofar as its debt to Plato’s speculations on cosmic origins is apparent at every turn.’ Linda Lomperis, ‘From God’s Book to the Play of the Text in the *Cosmographia*’, *Medievalia et Humanistica: Studies in Medieval and Renaissance Culture* 16, ed. by Paul Maurice Clogan (Totowa, NJ 1988), pp. 51–57, at 51.

⁶¹ *Ibid.*, p. 59. Lomperis’ article aims to ‘unmask the rhetorical characteristics of Bernard’s writing’ (paraphrase from bottom of p. 51). The repetition of Bernard’s ‘craft’ imagery in the quote above is helpful, but incidental to her core analysis. It is also worth noting, as an aside, that Lomperis introduces her project (to unmask the rhetorical character of the work) as an antidote to the prevalent emphasis on Bernard’s Platonism, and the status of the work as a ‘medieval *Timaeus*’ (previous note). She seems oddly unaware of the rhetorical and conjectural character of the *Timaeus* itself. Bernard’s ‘poetic self-consciousness’ (as I stress here, and as is known to other scholars of his work) was in many ways the essence of his Platonism.

in the *Cosmographia* has never been treated as a topic worthy of exploration in its own right, and certainly never connected with Hugh of Saint-Victor's innovative treatment of mechanics as a part of philosophy just a few years earlier. The sole exception to this rule is Brian Stock's observation, in his 1972 monograph on Bernard, *Myth and Science in the Twelfth Century*, that the author seemed 'predominantly interested in the mechanical arts.'⁶² And that, 'in a period when the mechanical arts were, by and large, considered "adulterine," Bernard appears to have a more positive evaluation of their role.'⁶³ Yet this unusually 'positive evaluation' receives no sustained analysis from this literary historian.

My thesis aims to provide that analysis. It seeks to show that in Bernard's *Cosmographia*, the 'mechanical arts' have a poietic role, visualising 'liberal art' itself, which can be seen as fulfilling – and developing – Hugh's positioning of them. After Bernard, in Chapter Three, I look to the writings of Alan of Lille – already mentioned as an important figure in the work of James Simpson, who pinpoints Alan's playfulness with epistemological hierarchies. Alan was another 'poet-philosopher', and student of Chartres, who is widely regarded as Bernard's 'literary successor'.⁶⁴ His major allegories are *De Planctu Naturae* (1160s) and *Anticlaudianus* (early 1180s). At an angle from Simpson, I show how following Bernard (and the *Timaeus*), these dramatise the verbal 'making' or 'remaking' of nature in a way that seems to bring the *artes mechanicae* into touch with their poietic heritage. In Alan's works we also see the metaphorical mechanical arts in service of polemic, as part of Alan's defence of the older, poetic model of philosophy – rooted in ancient *paideia* – against encroaching academic specialisation. This author not only constructs a picture of the 'mechanical art' of philosophy or the liberal arts, but turns this into a narrative device for persuading the reader that intellectual ascent is impossible by any other means. Alan of Lille – benefitting from the inventiveness of Bernard – could be seen to bring to a remarkable didactic 'climax' the subtly exemplary power of mechanical art construed in the *Didascalicon*.

In the fourth and final chapter I turn to a writer who was not a Chartrian, nor a 'poet-philosopher', nor an encyclopaedist – but whose work demands consideration in order to bring this study to a proper close. This author is Geoffrey of Vinsauf, well known to historians of medieval literature for his *Poetria nova*, the most popular of what were known as the medieval

⁶² Brian Stock, *Myth and Science in the Twelfth Century: A Study of Bernard Silvester* (Princeton 1972), p. 196.

⁶³ Ibid.

⁶⁴ See below, p. 75.

‘Arts of Poetry’ or *Artes Poetriae*, and completed in around 1215. He was working in the tradition of Bernard Silvestris and Alan of Lille; he is thought to have known the latter personally.⁶⁵ For Geoffrey, following Bernard and Alan’s example (combined with the recently re-popularised example of Horace’s *Ars Poetica*), the mechanical arts seem to have presented a go-to metaphorical resource for describing and dramatising poetic procedure.

At the same time, however, his use of the lexicon of the ‘mechanical arts’ is at odds with the use made of them by the Chartrians and represents a subtle inversion of their original imaginative currency. Geoffrey was receptive, I show, to a rethinking of the mechanical arts at the dawn of the thirteenth century, under the influence of Aristotelian works, which led to a recasting of them *not* as imitative and manual activities, emblematic of ‘making’, *poiesis*, but as rational *technai*, emblematic of specialised and theoretical mastery. He uses the lexicon of the *artes* not to envisage the ‘world-making’ or cosmic interpretation proper to the liberal arts, but to envisage poetic art almost as a ‘liberal art’ in its own right. Images of the architect and medic are deployed – in line with both Aristotle, and Horace (himself an Aristotelian) – to suggest rhetorical preconception and planning, and to position the author not as a cosmic interpreter, but a technical rival of nature, and a creator of *trompe l’œil* effects.

Geoffrey’s is, in fact, the picture of ‘poet-craft’ that modern readers are more likely to recognise. As we will see, Mary Carruthers has paid special attention to Geoffrey’s work as an *exemplum* of the medieval metaphorical use of crafts.⁶⁶ In the context of the present discussion, we are able to show Geoffrey was an anomaly, dependent on and departing from earlier tradition. His work is witness to the demise of the *poietic* efficacy of the mechanical arts to medieval pedagogues and ascetics and the rise of a more recognisable recruitment of the crafts, to describe and confirm (rather than to shape and to modify) the agenda of the liberal arts.

To close this first section of the introduction, then: the following thesis has one central aim, to show that the *artes mechanicae* – long the province of the history of medieval science – were also the province of a medieval ‘philosophico-poetic tradition’. Where previous scholars have argued (to varying extents) that Hugh’s decision to include them testifies to the first glimmerings of ‘our present scientific movement’, I argue they had a parallel exemplary or metaphorical role, and

⁶⁵ Marjorie Curry Woods, *Classroom Commentaries: Teaching the Poetria nova across Medieval and Renaissance Europe* (Columbus 2010), p. 1, n. 3.

⁶⁶ For example, in *The Experience of Beauty in the Middle Ages* (Oxford 2013), p. 204.

were simultaneously brought into relation with the *paideic* principle of knowing as ‘making’, *poiesis*. I will show how, via Eriugena, this is felt in Hugh’s discussion of them in the *Didascalicon*, while my ‘core’ chapters consider the works of the Chartrians, in which the *artes mechanicae* are present entirely metaphorically, one can argue, picturing the rhetorical and philosophical mission to ‘make sense’ of nature, and bringing to life the ‘mechanical educational psychology’ native to the schools (as identified by Lynch). The example of Geoffrey of Vinsauf is offered, in the final chapter, in an attempt to frame this metaphorical tradition, and to make sense of its dissolution, under the new influence of Aristotelian epistemology.

At the heart of the dissertation, therefore, is the extent and effect to which the mechanical arts described or imagined the *opus* proper to the *liberal arts* in works by schoolmen from around the 1120s to the beginning of the thirteenth century. Indeed, it is as much about the mechanical arts as it is about twelfth-century education and epistemology in general – fields which not only ‘included’ the category of *mechanica*, but which, I suggest, were themselves informed and can be better understood by it.

II. The ‘Promethean’ and the ‘Orphic’ Attitudes to Nature (A Critical Framework)

Before venturing into the body of the argument, I want to offer – briefly – a specific critical context for my intervention. For this we need to return to Winthrop Wetherbee’s statements on the mechanical arts cited earlier. Of Hugh of Saint-Victor’s *Didascalicon*, he said, ‘it is easy to feel that we have located that Promethean strain in twelfth-century thought.’⁶⁷ As I have indicated, Wetherbee is not an historian of the mechanical arts in themselves, and in his discussion this reference to Prometheus comes as something of an off-the-cuff flourish, aimed to gesture at rather than to interrogate the potential misrepresentation of the arts by scholars. The reference is a felicitous one for this enquiry, however.

Prometheus, whose name means literally ‘foresight’, was the heroic trickster figure of the ancient world, associated with the origins of the arts of civilization. Famously, he stole fire, the means of metalwork (and all creativity), from Zeus to give to mortals, so they might improve their natural

⁶⁷ Wetherbee, ‘Philosophy, Cosmology’, p. 23.

state. He was later adopted as a symbolic father figure by the pioneers of the Scientific Revolution – who used him to stress man’s liberation from the bonds of religion, and ability to master nature through science, rather than simply revere it.⁶⁸

He occupies an important place in a book which has proved immensely instructive in the research for this study: Pierre Hadot’s *Veil of Isis: An Essay on the History of the Idea of Nature*.⁶⁹ Hadot (1922–2010) was an historian of Greco-Roman conceptions of philosophy. His major studies argue that for the ancients, philosophy was a ‘way of life’ an ‘orientation of the attention’, rather than a set of doctrines (as we have come to think of it since the rise of universities).⁷⁰ His *Veil of Isis* explores this ‘orientation of the attention’ in its cosmic aspect. It tells the winding tale of human attitudes to the natural world from pre-Socratic philosophy to the present day. This study opens with the famous aphorism of Heraclitus, *phusis kruptesthai philei*: ‘nature loves to hide’ or ‘nature loves to wrap herself up’ – which Hadot argues ‘held sway for centuries over successive generations like a kind of program to be realised, a task to be accomplished, or an attitude to be assumed.’⁷¹ He suggests that the way in which successive generations approached a ‘veiled nature’ can be grouped into two archetypal camps:

If man feels nature to be an enemy, hostile and jealous, which resists him in hiding its secrets, there will be an opposition between nature and human art, based on human reason and will. Man will seek, through technology, to affirm his power, domination, and rights over nature.

If, on the contrary, people consider themselves to be a part of nature because art is already present in it, there will no longer be an opposition between nature and art; instead, human art, especially in its aesthetic aspect, will be in a sense the prolongation of nature, and then there will no longer be any relation of dominance between nature and mankind. The occultation of nature will be perceived not as a resistance that must be conquered but as a mystery into which human beings can be gradually initiated.⁷²

Hadot designates these two attitudes the ‘Promethean’ and the ‘Orphic’. The Promethean is the first attitude he describes, that which presupposes a fundamental difference between the

⁶⁸ See, for example, David S. Landes, *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present* (Cambridge, UK 1969).

⁶⁹ Pierre Hadot, *The Veil of Isis: An Essay on the History of the Idea of Nature*, trans. by Michael Chase (Cambridge, MA 2006), p. xiii. (Originally published as *Le Voile d’Isis*, Paris 2004).

⁷⁰ Pierre Hadot, *Philosophy as a Way of Life* (Oxford 1995), p. 267.

⁷¹ Ibid., p. xi.

⁷² Ibid., p. 92.

functioning of nature and the functioning of man, and thus resorts to the ‘violence’ or ‘trickery’ of technological means and experimental science in order to unveil nature’s secrets. As heirs of the Scientific Revolution, for Hadot, this is the attitude we moderns know and practise.

The ‘Orphic’ attitude is the second attitude described. It assumes, by contrast to the Promethean, a continuity between the processes of humanity and nature. Like Prometheus, Orpheus was a figure of Greek myth exemplifying the human ability to subdue nature. However, unlike Prometheus, Orpheus’ skill consists in song and poetry. The major stories about him centre on his ability to charm all living things, even his wife Eurydice’s captors in the underworld, with his lyre-playing and singing (figure 2). Hadot uses him to designate the attitude that ‘seeks to discover the secrets of nature while confining itself to perception, without the help of instruments, and using the resources of philosophical and poetic discourse or those of the pictorial arts.’⁷³ Hadot explains – or contends – that this is the older of the two attitudes. Its first expressions are the pre-Socratic cosmogonic songs, and parts of the Homeric epics, while its consummate statement is the *Timaeus*. Hadot also finds it expressed, however, in the writings of Johann Wolfgang von Goethe (1739–1832) – a particular champion of his study, ‘a poet and at the same time a scholar, who seemed to me to offer the model of an approach to nature that was both scientific and aesthetic’.⁷⁴

Mechanical Art and the Orphic Attitude

‘Mechanics’ has an amphibious character in this framework. On the one hand, and as we would expect, it belongs to the Promethean attitude. ‘The idea of trickery – and, ultimately, of violence – appears in the word “mechanics,” since *mēkhanē* signifies “trick”, Hadot tells us.’⁷⁵ He shows that this etymology was given in the Pseudo-Aristotelian work *Problemata mechanica*, ‘Mechanical Problems’ of the second century BC: the earliest work to treat mechanics as a discrete domain, about the creation of effects ‘contrary to nature’ and beneficial to mankind.⁷⁶ Hadot goes on to suggest that this discrete, utilitarian picture of mechanics received its superlative expression in the works of Francis Bacon, Descartes, and Galileo.⁷⁷

⁷³ Ibid., p. 155.

⁷⁴ Ibid., p. ix.

⁷⁵ Ibid., p. 103.

⁷⁶ Ibid., p. 102.

⁷⁷ Ibid., p. 123.

On the other hand, Hadot shows mechanics, or mechanical art, was not contrary to the ‘Orphic’ attitude. Before it was considered a discrete ‘technological’ field in works like the *Problemata mechanica*, the domain of ‘the mechanical’ was seen in accord with, or as a dimension of, the poetic and pictorial approach to the natural world. Here we return to the importance of the long-lost concept of *poiesis*, ‘making’, which united under its nomination the physical maker – i.e. the engineer or ‘mechanic’ – and the literary maker, the ‘poet’ in the modern sense. Both these figures were *poietai*. Mechanics, *mēkhanē*, was originally a subcategory of *poiesis*. It could be seen precisely as engaging in a kind of *knowingly artificial* prolongation and transformation of nature; not necessarily as interventionist or aggressive trickery, in the later Greek, and ‘modern’ sense.

The creation story of the *Timaeus*, ‘the archetypal model of what I have called the Orphic attitude’ (Hadot says), is witness to this ‘older’ and less ‘specialised’ view of mechanics – as continuous with (or an image for) poetic discovery.⁷⁸ The mechanical work of the Demiurge who reflects the mythological work of the poet, is indicative of Plato’s fundamentally poetical (or poetical) view of mechanics. For both domains of human pursuit, Hadot explains, involve the projection of a self-consciously imitative model onto natural processes:

Like ‘idealist’ explanations, mechanistic explanations claim mere likelihood and are only hypothetical. They hypothesize a certain mode of functioning...to explain the effect that appears before our eyes. As we have seen, however, they accept that in reality, beneath the same appearance, the mode of functioning can be different, and another hypothesis may be possible.⁷⁹

Thus mechanics – while it can be treated as comprising an interventionist system or set of methods – can also be seen, from a ‘philosophical distance’ (so to speak), as having a methodical structure that is derivative, hypothetical, even poetical. It involves re-imagining nature, and its devices and products are consciously dissimilar to, if based on, a ‘superior’ natural archetype. If mechanics *does* rely on ‘trickery’, that trickery can be regarded – from this angle – as continuous with the kind of artifice inherent to human language, and even to thought. In this way, then, the domain of mechanics could be seen as *exemplifying* the work of human perception, rather than as supplementing or supplanting the methods of perception with instruments. This is, Hadot

⁷⁸ Ibid., p. 208.

⁷⁹ Ibid., p. 159.

suggests, how (an ultimately pre-Aristotelian) ‘mechanics’ could be said to feature in the demiurgic myth of the *Timaeus* – and to be incorporated within an ‘Orphic’ attitude to nature.

Hadot’s critical framework of the ‘Promethean’ and the ‘Orphic’ is an avowedly fictional construct. The historical reality is inevitably more mixed, and more complex, than such a dichotomy might have us believe (as Hadot himself emphasises). But it is ‘good to think with’ here. It allows me to frame my alternative to previous scholars’ readings of the mechanical arts as indicative of the rise of ‘modern science’ – or, in Wetherbee’s coincidentally apposite terms, of that ‘Promethean strain in twelfth-century thought’.

I have touched on how important the archetypally ‘Orphic’ text of the *Timaeus* was to twelfth-century schoolmen. It seems to me that the ‘mechanical arts’ were also understood in line with the picture and function of craft created in this work: as a dimension and illustration of our imaginative coming-to-terms with nature. One could point out at this stage that Hugh of Saint-Victor actually thought mechanics derived *not* from *mēkhanē*, to do with ‘trickery’ and machines – but specifically from the Greek *moikhós*, and the Latin *moechus*, for ‘adulterer’.⁸⁰ Hence his definition in the passage we opened with, in which he says the human work, because it imitates nature, ‘is fitly called mechanical, that is adulterate’.⁸¹ This etymology plays down the aggressive aspect of mechanics, and plays up its conjectural nature. Hugh suggests the mechanic makes nature ‘intelligible’ through the joining and disjoining of her parts. He is a student of nature, and becomes, as a result, a ‘type’ for the student in Hugh’s vision: an *exemplum* for the poetical discovery of nature and journey back to God.

In giving this kind of ‘poetical attitude’ a patron in Orpheus, Hadot bestows a more suitable patron, perhaps, for the mechanical arts as they were interpreted in the works of certain twelfth-century schoolmen. Indeed, in response to Wetherbee’s criticism, this thesis can be read as an exploration of the mechanical arts as demonstrative of ‘that Orphic strain’ in the thought of the medieval schools.

⁸⁰ Jerome Taylor shows this etymology had earlier appeared in the *Scholica graecarum glossarum* of Martin of Laon (d. 875). See Max L. W. Laistner, ‘Notes on Greek from the Lectures of a Ninth Century Monastery Teacher’, *Bulletin of the John Rylands Library* 7 (1922–1923), pp. 421–456, at 439; and Taylor, p. 191, n. 64.

⁸¹ ‘... opus humanum, quod natura non est, sed imitatur naturam, mechanicum, id est, adulterinum nominator.’ *Didascalicon* 1.9, Buttner, p. 16; Taylor, p. 55 (cited above, p. 1).

This argument is set out across the four chapters already outlined. The first of these, to which we now proceed, deals with the presentation of the mechanical arts in the *Didascalicon* itself. In doing so, we return to the mechanical arts' original formulation in the ninth century, in Eriugena's commentary on a work about unifying wisdom and eloquence. These two concepts are personified as a mythological couple: 'Philology' and 'Mercury'. The *artes mechanicae* are presented, by Eriugena, as the 'handmaids' of Mercury: who was not only the god of eloquence, and poetry, but the inventor of Orpheus' own lyre from a turtle shell. As I have said, this allegorical background has been glossed over. In what follows I want to show it laid the groundwork for their Orphic – or indeed 'Mercurial' – significance for both Hugh, and later for the poet-philosophers of Chartres.

I.

The Mechanical Arts in Hugh of Saint-Victor's *Didascalicon*

Hugh of Saint-Victor's *Didascalicon* is the supreme example of what Rita Copeland and Ineke Sluiter have called the twelfth-century 'meta-scientific statement'.¹ It was conceived as an up-to-date, exhaustive textbook on the parts and procedures of philosophy for a new influx of students arriving at the Abbey School of Saint-Victor in Paris, where he was master from around 1120 (figure 3). Hugh's ultimate objective was to clarify how the liberal arts ('philosophy') serve the discovery of divine wisdom in Scripture – to turn the Boethian dictum, *philosophia est amor sapientiae* into a practical strategy (figure 4).²

He did so by dividing philosophy into four parts: the theoretical, the practical, the logical, and the mechanical (*theorica, practica, logica, mechanica*).³ The theoretical contains theology, physics, and the mathematical arts of the quadrivium; *practica* contains ethics, economics, and politics; and *logica* comprises the verbal arts of the trivium (grammar and the 'theory of argument', or dialectic and rhetoric).⁴ *Mechanica* comprises the seven arts of fabric making, armament and building, commerce, agriculture, hunting, medicine, and theatrics.

Hugh maintains this fourfold division, but he simultaneously maintains a more straightforward, twofold view of philosophy: as composed of 'liberal' (whose arts are technically divided between the classifications 'theory' and 'logic') and 'mechanical'. He reiterates, over the course of the encyclopaedia, a basic structural contrast between the liberal arts which 'restore in us the likeness

¹ Rita Copeland and Ineke Sluiter, eds, *Medieval Grammar and Rhetoric: Language Arts and Literary Theory*, (Oxford 2012), p. 368.

² Boethius' dictum is cited at the opening of Book Two, Hugh explaining that this definition of philosophy 'pays special attention to the etymology of the word. For *philos* in Greek means love, and *sophia* means wisdom, so that from them "philosophy", that is "love of wisdom", was coined.' ('haec definitio magis ad etymologiam nominis spectat. *philos* enim Graece, amor dicitur Latine, *sophia*, sapientia, et inde *philosophia* tracta est, id est, amor sapientiae.') *Didascalicon* 2.1, Buttimer, p. 23; Taylor, p. 62.

³ *Didascalicon* 1.5–11; Taylor, pp. 51–60.

⁴ A useful analysis and diagram of Hugh's division can be found in Stephen Ferruolo's *The Origins of the University, The Schools of Paris and their Critics, 1100–1215* (Stanford 1985), p. 34. Jerome Taylor discusses the division in the 'Introduction' to his edition and translation, pp. 7–8.

of the divine image’, and the mechanical arts which address our bodily weakness, or ‘take thought for the necessity of this life.’⁵

The main discussion of the mechanical arts is found in Book Two, across eight short chapters, from Chapter Twenty to Chapter Twenty-seven. The first of these deals with the ‘division of the mechanical arts into seven’, and the remaining treat each of these seven *artes mechanicae* in turn: giving an overview of their individual origins, tools, and products. The first is on fabric making (*lanificium*) – whose example gives a flavour of the set:

Fabric making includes all the kinds of weaving, sewing, and twisting which are accompanied by hand, needle, spindle, awl, skein winder, comb, loom, crisper, iron, or any other instruments whatever; out of any material made of flax or fleece, or any sort of hide, whether scraped or hairy, out of cane as well, or cork, or rushes, or hair, or tufts, or any material of this sort which can be used for the making of clothes, coverings, drapery, blankets, saddles, carpets, curtains, napkins, felts, strings, nets, ropes; out of straw, too, from which men usually make their hats and baskets. All these pursuits belong to fabric making.⁶

Such passages abound in quotidian observation. They show us Hugh in an empirical and practical light: as a man who, while he was a philosopher and pedagogue within the walls of Saint-Victor, was in touch with the contemporary life of workshops and markets. As one scholar has put it, particularly vividly:

These lists of specific subdivisions and lively examples of the mechanical read like a comprehensive affirmation of daily life in the world at large, the world of blankets, saws, trade, meadows, beer, surgery, and amphitheatres. Here and elsewhere, Hugh does not disparage the physical created world but affirms it.⁷

In scholarship of the 1960s and 70s, there was a fresh impetus to investigate Hugh’s chapters on *mechanica* and their importance in the scheme of the *Didascalicon*. In his analysis of their technological content, Lynn White argued that Hugh should be re-instated as ‘one of the most

⁵ ‘... divinae imaginis similitudo in nobis restauretur ... vitae necessitudini consulatur’. Ibid. 1.7, Buttner, p. 15; Taylor, p. 54.

⁶ ‘Lanificium continet omnia texendi, consuendi, retorquendi genera, quae fiunt manu, acu, fuso, subula, girgillo, pectine, alibro, calamistro, chilindro, sive aliis quibuslibet instrumentis, ex quacumque lini vel lanae materia et omni genere pellium erasarum vel pilos habentium, cannabis quoque, vel suberis, iuncorum, pilorum, floccorum, aut alia qualibet re huiusmodi, quae in usum vestimentorum, operimentorum, linteorum, sagorum, sagmatum, substratoriorum, cortinarum, matularum, filtrorum, chordarum, cassium, funium, redigi potest. stramina quoque ex quibus galeros et sportulas texere solent homines. haec omnia studia ad lanificium pertinent.’ *Didascalicon* 2.21, Buttner, pp. 39–40; Taylor, p. 75.

⁷ Paul Rorem, *Hugh of Saint Victor* (Oxford 2009), p. 26.

adventurous spirits of his age’.⁸ He cast Hugh as an ‘engineer’, rebelling against the literary traditionalism of his contemporaries – as the proponent of a technological humanism, or what Wetherbee coined the ‘Promethean strain in twelfth-century thought’.⁹

This chapter aims, likewise, to readdress the importance of *mechanica* to Hugh of Saint-Victor. But it does so from a different angle. It explores how Hugh’s conception of mechanics as a discrete, single category, made up of seven individual arts, exists in tandem with a more abstract conception of *mechanica*, not as a ‘part of’ – but as an *image for* philosophy as a whole, with a significance that transcends and encompasses his ‘official’ categories of ‘mechanical’ and ‘liberal’ (or ‘theoretical’, ‘practical’, and ‘logical’). The mechanical arts are on occasion exemplary of the higher – specifically the trivial, or logical – arts in Hugh’s vision.¹⁰ Their hands-on procedures – or ‘taking thought for necessity’ – serve as *illustrations for* the mission of ‘recovering the divine likeness’, which is elsewhere said to be a wholly separate and superior project.

Importantly, this argument does not mean refuting or underplaying Hugh’s genuine enthusiasm for contemporary craft in his accounts of the individual *artes mechanicae*, as evidenced in his description of fabric making. Hugh’s desire to incorporate the day-to-day world of production in his soteriological scheme is indisputable – and of fundamental importance to my argument. Rather it means treating the accounts of the mechanical arts as a part, or an expression of a wider, ultimately classical interest in the contribution of mechanical art to philosophy, that surfaces in unexpected places of the *Didascalicon*, and in less obvious, subtler forms. I want to show that the mechanical arts – with all their diverse practices, instruments, and materials – matter to Hugh not only as ‘real-life’ activities, but also as a means of elaborating on a basically poetic, or *poietic*, vision of learning as a whole, as a ‘making sense’ of nature, or ‘necessity’. They elucidate his *philosophical psychology* as well as denoting a ‘part’ of philosophy. To use the relevant terms of Hadot’s framework: they exemplify not so much a ‘Promethean’ or utilitarian attitude to

⁸ White, *Medieval Religion and Technology*, p. 325. See Introduction, pp. 2–3.

⁹ *Ibid.*, p. 325; and for Wetherbee, above, p. 2, n. 7.

¹⁰ I have already spoken (above, p. 6, n. 28) about the essentially ‘trivial version of philosophy’ native to the twelfth-century schools. It is one of the challenges and propositions of this dissertation that medieval encyclopaedias like the *Didascalicon* can present several ‘systems’ at once: an explicit system (in this case, *theorica, practica, logica, mechanica*) being undercut (without being destabilised) by an alternative hierarchy, implicit within the text. In the *Didascalicon*, the fourfold division of philosophy exists alongside assertions of an essentially trivial (or logical) version of philosophy. In the same paradoxical or ‘collateral’ fashion, *mechanica* appears both as a ‘category’ and as an ‘exemplary’ field.

nature in Hugh's encyclopaedia – but an 'Orphic' attitude. They can be seen to describe and evoke man's perception and cognition of nature; not man's technological manipulation of it.

This argument falls into two main parts. The first considers the terms in which Hugh introduces the mechanical arts in Book Two. Previous scholars of the mechanical arts, including White, have failed to assess in due depth their introduction in the *Didascalicon*: as 'handmaids' in an intellectual marriage of wisdom and eloquence, or Philology and Mercury. As Elspeth Whitney notes, such references have led to Hugh being 'accused of relying overmuch on literary convention and of being overly metaphorical and "bookish"'.¹¹ They have been seen to distract from his more technical, more 'adventurous' language for the individual arts.¹² I contend that this mythological introduction, which alludes to their source in a commentary by John Scotus Eriugena, should be taken seriously as a conceptual – and poetical – 'frame' for the catalogues of the *artes mechanicae*.

The second part of this chapter, related to the first, and similarly overlooked by scholars of the mechanical arts, concerns Hugh's separate discussion of the mechanic in Book One of the *Didascalicon*. This discussion includes the vision of the three works, *tria opera*, of God, nature, and man, which make up the cosmos.¹³ If scholars have looked at this, they have treated it in isolation from the complex metaphysical scene-setting of Book One as a whole – taking it instead as an 'add-on' to the catalogues of Book Two. I consider this discussion of the artificer as cosmic agent, and 'interpreter' of nature, in its own right, and in the context of the exemplary and synoptic thrust of Book One. I show that it implies a poetical role for the mechanical artist, which in turn could be seen to elaborate on the arts' allegorical heritage.

The body of this chapter therefore has two main sections. It may strike the reader as counterintuitive to move (backward) from Book Two to Book One. I hope the rationale for this trajectory becomes clear: first, it allows us to move from the explicit locus of Hugh's discussion of mechanics outwards – and therefore to show more persuasively how the previous scholarship has been limited. It is also an argumentative necessity. Establishing the meaning of the

¹¹ Whitney, 'Paradise Restored', p. 87.

¹² The point has been made by Barbara Newman that goddesses in medieval poetry 'have been something of an embarrassment to medievalists'. Perhaps the same embarrassment has prevented serious attention to allegorical references in otherwise 'serious' texts like Hugh's. Barbara Newman, *God and the Goddesses: Vision, Poetry, and Belief in the Middle Ages* (Philadelphia 2003), p. 1.

¹³ Above, p. 1 (and below, p. 44).

framework of wisdom and eloquence, introduced in Book Two, is important context for the arguably wider significance of mechanical art in the first book. The argument thus calls for a right-to-left approach, beginning with the mechanical arts' patron in the eyes of medieval schoolmen: the Roman god of eloquence and poetry, Mercury.

I. Wisdom and Eloquence

In his introductory comments 'on the division of the mechanical arts into seven', just before his catalogues of their individual processes and products, Hugh explains 'Hae sunt septem ancillae quas Mercurius a philologia in dotem accepit; quia nimirum eloquentiae cui juncta fuerit sapientia, omnis humana actio servit': 'These are the seven handmaids which Mercury received in dowry from Philology, for every human activity is servant to eloquence wed to wisdom.'¹⁴ He goes on, 'Thus Tully, in his book on rhetoricians, says concerning the study of eloquence':

By it life is made safe, by it fit, by it noble, and by it pleasurable: for from it the commonwealth receives abundant benefits, provided that wisdom, which regulates all things, keeps it company. From eloquence, to those who have acquired it, flow praise, honor, dignity; from eloquence, to the friends of those skilled in it, comes most dependable and sure protection.¹⁵

This introduction relies on three separate, and interrelated historical sources. To begin with Hugh's most specific claim: the idea that the mechanical arts belonged to Mercury 'received in dowry from Philology' is taken from John Scotus Eriugena, and his ninth-century commentary on a pagan work by the fifth-century Roman author Martianus Capella, 'The Marriage of Philology and Mercury', or *De nuptiis Philologiae et Mercurii*. The union of Philology and Mercury is original to this work – a ceremony to which Eriugena added, in his commentary, the dowry of the *artes mechanicae*. However, Hugh also refers, synchronously, to the words of 'Tully', that is Cicero, 'concerning the study of eloquence', as if to support his characterisation of the mechanical arts as Mercury's 'handmaids'. Cicero was Martianus Capella's own source

¹⁴ Hugh of Saint-Victor, *Didascalicon* 2.20, Buttner, p. 39; Taylor, p. 75.

¹⁵ 'sicut Tullius in libro rhetoricorum de studio eloquentiae dicit: Hoc tuta, hoc honesta, hoc illustris, hoc eodem vita iucunda fiat. nam hinc ad rem publicam plurima commoda veniunt, si moderatrix omnium praesto est sapientia. hinc ad eos qui ipsam adepti sunt, laus, honos, dignitas, confluit. hinc amicis quoque eorum certissimum, et tutissimum praesidium est.' Ibid. The original passage is at *De Inventione* 1.4 – trans. by H. M. Hubbell, LCL 386 (Cambridge, MA 1949), pp. 12–13.

for the idea of Philology and Mercury's marriage.¹⁶ These mythological figures were personifications for an educational ideal of combining 'wisdom' and 'eloquence' set out in Cicero's *De Inventione* – from which Hugh quotes here. Martianus, by allegorising this ideal, popularised it for the Middle Ages. In order to fully comprehend Hugh's own understanding of the marriage, his frame for the *artes mechanicae*, we need to address these three complementary sources (Cicero, Martianus, and Eriugena) in turn, and in some depth – starting with what Cicero had himself meant by the union.

Cicero

There is, in the first place, Cicero's passage quoted by Hugh – describing the good which eloquence, when accompanied by wisdom (*sapientia*) does for states (offering nobility, pleasure, praise, honour, dignity, and protection). His discussion of the union also included an 'origin myth' for eloquence: 'If we wish to consider the origin of this thing we call eloquence – whether it be an art, a study, a skill, or a gift of nature', he says, 'we shall find that it arose from most honourable causes and continued on its way from the best of reasons':¹⁷

For there was a time when men wandered at large in the fields like animals and lived on wild fare; they did nothing by the guidance of reason, but relied chiefly on physical strength; there was as yet no ordered system of religious worship nor of social duties ... At this juncture a man – great and wise [*sapiens*] I am sure – became aware of the power latent in man and the wide field offered by his mind for great achievements if one could develop this power and improve it by instruction. Men were scattered in the fields and hidden in sylvan shelters [*tectis silvestribus*] when he assembled and gathered them in accordance with a plan; he introduced them to every useful and honourable occupation, though they cried out against it at first because of its novelty, and then when through reason and eloquence [*rationem atque orationem*] they had listened with greater attention, he transformed them from wild savages into a kind and gentle folk. To me, at least, it does not seem possible that a mute and voiceless wisdom [*tacita nec inops dicendi sapientia*] could have turned men suddenly from their habits and introduced them to different patterns of life.¹⁸

¹⁶ Cicero was Martianus' obvious source, and it was also to Cicero that medieval authors traced the wisdom-eloquence *topos*. However, as Gabriel Nuchelmans shows, Cicero himself took it from the Greek Stoics and specifically Isocrates (c. 436–338 BC): Gabriel Nuchelmans, 'Philologiae et son mariage avec Mercure jusqu'à la fin du XIIe siècle', *Latona* 16 (1957), pp. 84–107.

¹⁷ 'Ac si volumus huius rei quae vocatur eloquentia, sive artis sive studi sive exercitationis cuiusdam sive facultatis ab natura profectae considerare principium, reperiemus id ex honestissimis causis natum atque optimis rationibus profectum.' Cicero, *De Inventione* 1.1; Hubbell, pp. 4–5.

¹⁸ 'Nam fuit quoddam tempus cum in agris homines passim bestiarum modo vagabantur et sibi victu fero vitam propagabant, nec ratione animi quicquam, sed pleraque viribus corporis administrabant; nondum divinae religionis, non humani officii ratio colebatur ... Quo tempore quidam magnus videlicet vir et sapiens cognovit quae materia esset et quanta ad maximas res opportunitas in animis inesset hominum, si quis eam posset elicere et praecipiendo meliorem

This elaborates on eloquence as a civilizing power. Cicero imagines it as the very foundation of the Roman *polis*. Without it there would be no culture. Romans would not be Romans, but wild men, living in ‘sylvan shelters’ with no knowledge of their own innate wisdom (or reason) and potential for greatness. Wisdom is again stressed as the more elevated partner of the ‘union’, as it was in the passage quoted by Hugh (where it ‘regulates’ and directs eloquence). In this ‘origin myth’ Cicero goes further to define wisdom as a native thing: that power ‘latent in man’, which needs developing and improving by instruction *by eloquence*. Eloquence, he seems to confirm, is by contrast ‘an art, a study, a skill’. It makes wisdom effective; it releases it from its initially ‘mute and voiceless’ condition. It is instrumental in what Cicero elsewhere called the ‘cultura animi’, the cultivation of the soul.¹⁹ It is the means by which we emerge from, improve, and eventually master our natural state. Via eloquence, in other words, we tackle and rise above ‘necessity’.

Martianus Capella

The terms and images of this origin myth for wisdom and eloquence were taken up, and dramatically rephrased, by Martianus Capella, in his pagan allegory *De nuptiis Philologiae et Mercurii*, written sometime between 410 and 439.²⁰ Cicero’s union had in fact received earlier commentary from the Christian convert Marius Victorinus (c.350), and was discussed in some

reddere; qui dispersos homines in agros et in tectis silvestribus abditos ratione quadam compulit unum in locum et congregavit et eos in unam quamque rem inducens utilem atque honestam primo propter insolentiam reclamantes, deinde propter rationem atque orationem studiosius audientes ex feris et immanibus mites reddidit et mansuetos. Ac mihi quidem videtur hoc nec tacita nec inops dicendi sapientia perficere potuisse ut homines a consuetudine subito converteret et ad diversas rationes vitae traduceret.’ Ibid. 1.2; Hubbell, pp. 4–7. I make a single modification to Hubbell’s translation – translating *tectis silvestribus* (which he translates as ‘sylvan retreats’) as ‘sylvan shelters’, which I judge to be more accurate. We come back to this term in brief below, p. 68.

¹⁹ At *Tusculan Disputations* 2.5, Cicero writes: ‘cultura autem animi philosophia est’ (‘the cultivation of the soul is philosophy’). This suggests the synonymy of philosophy and eloquence in his works (eloquence being the equivalent ‘cultivator’ in *De Inventione*). For further study of Cicero’s agricultural metaphors see Catherine Connors, ‘Field and Forum: Culture and Agriculture in Roman Rhetoric’, in *Roman Eloquence: Rhetoric in Society and Literature*, ed. by William J. Dominik (London 1997), pp. 71–89.

²⁰ I use the Latin edition by James Willis, *Bibliotheca scriptorum Graecorum et Romanorum Teubneriana* (Leipzig 1983); and the English translation in the second volume of William Harris Stahl, Richard Johnson and E. L. Burge, eds, *Martianus Capella and the Seven Liberal Arts*, 2 vols (New York 1971) – hereafter referred to as ‘Stahl et al.’. The date of *De nuptiis* has been debated. Martianus laments the demise of Rome, leading scholars to believe the work postdates the sack of the city in 410. The terminus of 439 has been inferred from his references to the prosperity of Carthage, which fell into the hands of the Vandals in that year. For a summary of the arguments and the case for the timeframe 410–439, see Stahl et al., *Martianus Capella*, 1: pp. 12–15.

depth by Augustine in his fourth book of *De Doctrina Christiana*.²¹ Thus by the time it ‘reached’ Martianus it was something of a commonplace in both pagan and Christian circles.²² But his eccentric take on it is almost exclusively responsible for its popular reception in the Middle Ages.

According to one of his modern translators, William Stahl, Martianus was a prominent official in Roman provincial administration, and seems to have been born and educated at Carthage, perhaps alongside Augustine.²³ *De nuptiis* (as I will refer to it) is his only surviving work. It put Cicero’s civilizing partnership into the terms of a complicated Neoplatonic allegory, written in a mixture of prose and richly allusive verse, known as a *prosimetrum*.²⁴ Instead of describing or promising the foundation of the state, the union of wisdom and eloquence becomes in this text the foundation for the mind or soul’s ascent to heaven.

Cicero’s *eloquentia* is personified as Mercury, Roman god of communication (associated with eloquence, poetry, commerce, and travel).²⁵ It is worth noting that there was some kind of precedent for this: in Horace’s *Ars Poetica*, Cicero’s idea of eloquence turning wild men to civilized folk had been attached to the figure of Orpheus.²⁶ Martianus chooses instead Mercury, like Orpheus a player (actually inventor) of the lyre, but also associated with boundaries – with ‘marking’ them and crossing them – specifically boundaries between the human and the divine.²⁷

²¹ Relevant extracts of Marius Victorinus’ commentary are included in Copeland and Sluiter, *Medieval Grammar and Rhetoric*, pp. 105–124. The critical edition is by Karl Halm, *Explanationes in Ciceronis Rhetoricam*, in *Rhetores Latini Minores* (Leipzig 1863), pp. 153–304.

²² For the shared inheritance of Christian and pagan circles in late antiquity, see the work of Peter Brown, e.g. *Power and Persuasion in Late Antiquity: Towards a Christian Empire* (London 1992), pp. 35–70; and Alan Cameron, *The Last Pagans of Rome* (Oxford 2011).

²³ He refers to himself as a ‘fosterling of the prosperous city of Dido’. William H. Stahl, ‘To a Better Understanding of Martianus Capella’, *Speculum* 40, 1 (1965), pp. 102–115, at 105.

²⁴ This form was traditionally connected with the Greek satirist Menippus from Gadara, now in Jordan, and usually reserved for satirical contents. It was introduced to Latin Literature by Varro in his *Saturae Menippaeae*. A satirical element is preserved in Martianus’ text. For the influence of the *prosimetrum* on the literature of the Middle Ages see Eleanor Johnson, *Practicing Literary Theory in the Middle Ages: Ethics and the Mixed Form in Chaucer, Gower, Usk, and Hoccleve* (Chicago 2013).

²⁵ His Latin name is possibly related to *merx* for ‘merchandise’, *mercari* ‘to trade’, and *merces* for ‘wages’. Another possible connection is the Proto-Indo-European root *merǵ-* for ‘boundary, border’, whence we get the Old Norse *mark* and the Latin *margo*. One might add that while Greek language theory centered on *poiesis*, in the Roman period, much of this was carried over to *eloquentia* – the equivalent in conceptual size and application. Thus Mercury was the god of poetry and of orators.

²⁶ Horace, *Ars Poetica* 391–407: ‘While men still roamed the woods, Orpheus, the holy prophet of the gods, made them shrink from bloodshed and brutal living; hence the fable, that he tamed tigers and ravening lions.’ (‘Silvestris homines sacer interpresque deorum caedibus et victu foedo deterruit Orpheus, dictus ob hoc lenire tigris rabidosque leones.’) trans. by H. Rushton Fairclough, LCL 194 (Cambridge, MA 1926), pp. 482–483.

²⁷ The story of his creation of the lyre from a turtle shell is related in the Homeric *Hymn to Hermes*, referenced in Adeline Grand-Clément, ‘Poikilia’, in *The Blackwell Companion to Ancient Aesthetics*, ed. by Pierre Destrée and Penelope Murray, pp. 406–421, at 406.

In choosing Mercury, Martianus created a vivid picture of Cicero's eloquence as a cultivator of nature, through poetic means (speech or song) – and also a merchant, traveller, and messenger. He was also able to imply the mischievous character of eloquence when not applied to a proper purpose.

The personification Martianus chose for Cicero's 'wisdom' (*sapientia* or *ratio*) was by contrast not a familiar figure of myth, but a creation of his own imagination. He named her 'Philology', from *philo* + *logos*, meaning literally 'love of letters' or 'love of reason'. That she is a 'love of *logos* (as opposed to a personification of 'reason' or 'wisdom' itself) echoes Cicero's definition of wisdom as a latent, mute power, a potential in the mind or soul that has to be realised. Indeed, Martianus' allegory – like Cicero's 'origin myth' – paints wisdom as a rather passive figure in Philology. The actual plot of *De nuptiis* centres on how eloquence (Mercury) is brought into her service: how education makes man civilized, or (here) immortal.

Medieval students must have enjoyed Martianus' irreverence. The work opens with the story of the couple's courtship, 'fixed up' by Mercury's mother Juno. Martianus plays on Cicero's warning that eloquence without wisdom can be harmful or 'mischievous' in Juno's fears about the young god's licentious lifestyle:

She was concerned about him, especially because his body, through the exercise of wrestling and constant running, glowed with masculine strength and bore muscles of a youth perfectly developed. Already with the first beard on his cheeks, he could not continue to go about half naked, clad in nothing but a short cape covering only the top of his shoulders – such a sight caused the Cyprian great amusement.²⁸

Mercury's beauty is wasted, even precarious, until he is put to good use. Martianus' description of the fit young god is faithfully illustrated in a medieval tapestry of the marriage, dating to the late twelfth century, from the German Abbey of Quedlinberg, shown in figure 5 (although his cape has been sensitively lengthened).

When Jupiter (Juno's husband and Mercury's father) worries that Mercury might make a lazy husband for Philology, Juno reassures him that 'it is fitting that he should be married to the very

²⁸ '... praesertimque quod palaestra crebrisque discursibus exercitum corpus lacertosis in iuvenalis roboris excellentiam toris virile quadam amplitudine renidebat, ac iam pubentes genae seminudum eum incedere chlamidaque indutum parva, inelatum cetera, umerorum cacumen obnubere sine magno risu Cypridis non sinebant.' Martianus Capella, *De nuptiis Philologiae et Mercurii* 1.5, ed. Willis, p. 3; trans. Stahl et al., 2: p. 6.

maiden who would not tolerate his dozing off.’²⁹ Philology is a dedicated scholar and will be a good influence. She is shown on the far right of the Quedlinberg tapestry in noticeably modest, colourless dress. Martianus says that before her marriage she sits locked away in lonely and ‘wearisome vigils’ of research, *pervigilia laborata*, into the constitution of the world.³⁰ The correspondingly unruly, colourful Mercury ‘will be encouraged by her to move and stir his wings and seek the utmost limits of the world,’ what Martianus calls *extramundanas*.³¹

Once a council of the gods has been called, and the marriage put to a vote, the union is confirmed, and the wedding preparations begin. Philology, unlike Mercury, is a mortal, and part of the nuptial contract involves her promotion to immortality (representing the soul’s immortality) under the protection of the celestial delegation, including the Muses, the Cardinal Virtues, and the Graces (a scattering of whom are shown on the Quedlinberg tapestry). When Philology has ascended to the lap of the gods and finally enters the ceremony, Phronesis, her mother, requests that Mercury bestow his wedding gifts, after which ‘a gift should be given by the maiden’.³² Thus Mercury gives his gifts to Philology: seven serving maids – *ancillae* – who will be her servants. They are the seven liberal arts: Grammar, Dialectic, Rhetoric, Geometry, Arithmetic, Astronomy, and Harmony. This all ‘teaches’ a basic Neoplatonic and *paideic* lesson – that the immortality of the soul, the recovery of innate wisdom, depends on the study and ‘servitude’ of these disciplines. As Andrew Hicks puts it, in his insightful essay on the text, Martianus’ allegory emphasises the liberal arts’ ‘propaedeutic value’: as a means and a result of Philology’s metaphysical journey, ‘they are a path to salvation’.³³ The rest of *De nuptiis* takes the form of an encyclopaedia, with individual books given over to descriptions of each of these ‘maidens’ in turn.³⁴ But the gift to be ‘given by the maiden’ to her husband Mercury is never

²⁹ ‘tunc Iuno “atquin” ait “eiusdem convenit virginis subire vinclum, quae illum etiam quiescere cupientem conivere non perferat...”’ Ibid. 1.37, Willis, p. 15; Stahl et al., 2: p. 19.

³⁰ Ibid.

³¹ ‘tam vero abest ut sub hac possit pigrescere intricarique Cyllenius, ut commotis ab eadem suscitatisque pinnis extramundanas petere latitudines urgeatur.’ Ibid., Willis, p. 16.

³² ‘... ac demum dos a virgine non deesset ...’ Ibid. 2.217, Willis, p. 57; Stahl et al., 2: p. 63.

³³ The allegory rejects direct and detailed translation into a pedagogical ‘strategy’ (hence we have to be satisfied with the liberal arts as both ‘means’ and ‘ends’ of Philology’s marriage journey). Hence also I put the word ‘teach’ in inverted commas: Martianus’ ‘lesson’ *is* his imagery. Nevertheless, we can ascertain his general points – on which Andrew Hicks’ essay is excellent: ‘Martianus Capella and the Liberal Arts’, in *The Oxford Handbook of Medieval Latin Literature*, ed. by Ralph Hexter and David Townsend (New York 2012), pp. 307–334, at 315.

³⁴ In the last of these, about Harmony (or Harmonics), Martianus notes that Apollo ‘suggested that medicine and architecture were standing by, among those who had been prepared to perform. But since these ladies are concerned with mortal subjects and their skill lies in mundane matters, and they have nothing in common with the celestial deities, it will not be inappropriate to disdain and reject them. They will keep silent in the heavenly company’. Ibid. 9.891, Willis, p. 339; Stahl et al., 2: p. 346.

resolved. Martianus moves onto these later encyclopaedic books without ever referring back to this earlier promise.

John Scotus Eriugena

As early as the sixth century, another African, Fulgentius, wrote a text based on Martianus', and in the sixth century Gregory of Tours (c. 538–594) attested that *De nuptiis* had become a school manual.³⁵ But it was not until the ninth century that commentators picked up on Martianus' omission of Philology's gift and decided what it should be. Those who did so were two Carolingian scholars, John Scotus Eriugena and Remigius of Auxerre (c. 841–908).

Eriugena was an Irish ascetic and theologian who had migrated to France to head the Palace School of Charles the Bald. Remigius was taught by one of Eriugena's own disciples, Heiric of Auxerre and after Heiric's death became head of that school, before teaching in Reims and Paris. Both were prolific compilers and commentators on classical texts, but it was Eriugena who commented on Martianus' *De nuptiis* first; to a great extent Remigius only glossed his version.³⁶ Eriugena's commentary, Wetherbee has noted, is perhaps 'the first instance of a medieval reader approaching an ancient text in full awareness, both of the errors to which its pagan Platonism gives rise, and of all that it can nonetheless offer to the Christian student.'³⁷ Despite the text's many circumlocutions and complications, which often seem to undermine straightforward definitions of Philology and Mercury, Eriugena (and Remigius alike) took Martianus to be allegorising the union of Cicero, and defined Philology as *ratio* or *sapientia*, and Mercury as *sermo* (speaking) or *facundia sermonis* (eloquence of speaking).³⁸

On Philology's gifts to her new husband, Eriugena added in his commentary that it was 'as if [Martianus] had said: after Mercury has given the seven liberal arts, the maiden will then give the seven mechanical arts.'³⁹ At this point he elaborated no further. Then later, in his annotations

³⁵ Lewis Thorpe, *The History of the Franks* (London 1974), p. 30.

³⁶ See Ilaria Ramelli, 'Eriugena's Commentary on Martianus in the Framework of his Thought and the Philosophical Debate of his Time' in *Carolingian Scholarship and Martianus Capella: Ninth-Century Commentary Traditions on 'De Nuptiis' in Context*, ed. by Mariken Teeuwen and Sinead O'Sullivan (Turnhout 2011), pp. 245–272, at 246–248.

³⁷ Winthrop Wetherbee, 'Learned Mythography: Plato and Martianus Capella', in *The Oxford Handbook of Medieval Latin Literature*, ed. by Ralph Hexter and David Townsend (New York 2012), pp. 335–355, at 338.

³⁸ Hicks, 'Martianus Capella', p. 317.

³⁹ 'Ac si dixisset: Postquam Mercurius dederit septem liberales artes, tunc virgo dabit septem mechanicas.' *Iohannis Scotti: Annotationes in Marcianum*, 79, 12, ed. by Cora Lutz (Cambridge, MA 1939), p. 74. All translations from

on Martianus' book on *Dialectica*, where Martianus defines the term *qualitas* and the liberal arts as 'qualities' of mind, Eriugena returned to the topic of the mechanical arts, differentiating them from the liberal arts.⁴⁰ He wrote:

[The liberal] disciplines are perceived only by the mind itself, nor are they assumed from any other place, but comprehended naturally in the soul. Not so the other [mechanical] arts, which are made by a certain imitation or by a human devising, such as architecture etc.'⁴¹

In studies of the mechanical arts by White, Ovitt, and others, the fact that these arts first appear in the context of Martianus' marriage story is more or less glanced over.⁴² Concerned primarily with the mechanical arts' later and fuller treatment in taxonomies of knowledge, scholars have looked back on Eriugena, rather like Hugh, as a prophet of science and engineering, who used Martianus' text as an 'excuse' to invent a category of 'mechanical arts'. To me, this reading of Eriugena and Remigius seems to miss the more poetic, allegorical motivations which might also be at play in their addition (and thus perception) of the so-called 'mechanical arts'. There is, of course, very little to go on. Eriugena's only comments on this dowry, from the book on *Dialectica*, are an effort to distinguish them from the liberal arts. Where the latter are comprehended naturally in the soul ('naturaliter in anima intelliguntur'), Eriugena tells us, the mechanical arts are made 'by a certain imitation or by a human devising, such as architecture etc.' ('imitatione quadam vel excogitatione humana fiunt, ut architectoria et caetera').⁴³ His

this commentary are my own. Remigius copied Eriugena's decision in his own commentary, writing at the point of the dowry exchange, 'Ac demum id est post modum, hoc est postquam Mercurius ostenderat septem liberales artes, tunc demum et Philologia traderet septem mechanicas artes.' *Remigii Autissiodorensis: Commentum in Martianum Capellam Libri I-II*, 79.11, ed. by Cora Lutz (Leiden 1962), p. 208.

⁴⁰ The passage Eriugena comments on is at *De nuptiis Philologiae et Mercurii* 4.367, Willis, p. 120; Stahl et al., 2: p. 122.

⁴¹ '...ipse disciplinae sola ipsa anima percipiuntur nec aliunde assumuntur, sed naturaliter in anima intelliguntur. Non sic ceterae artes quae imitatione quadam vel excogitatione humana fiunt, ut architectoria et caetera.' *Iohannis Scotti: Annotationes* 170, 14, Lutz, pp. 96–97. I have translated *anima* as 'mind' in the first instance and 'soul' in the second although these could be swapped around, or the same term used twice. Lutz remarks in her introduction (p. xxx), the sole surviving manuscript of Eriugena's commentary contains two versions of the annotations on *De dialectica* (the fourth of the nine books of *De nuptiis*). 'The first, announced simply as "De dialectica," is somewhat abbreviated and contains glosses from 151, 1 to 174, 11, where upon it is followed immediately by the more formal "Incipiunt haec pauca in dialectica Martiani".' The comments on the mechanical arts cited above are therefore repeated in the manuscript (and in Lutz' edition), with slight variation. Here I have cited the fuller passage from the second and more formal version of the annotations. For the first version of the annotation see Lutz, p. 86. One of the main distinguishing factors between the two versions is the omission in the first of the notion of imitation ('imitatione quadam') from the definition of the mechanical arts (which are defined at p. 86 just as belonging to 'human devising', *excogitatione humana*).

⁴² Whitney discusses Eriugena's addition at 'Paradise Restored', pp. 70–73, but there is no mention of the allegorical 'setting' of the *Marriage*. George Ovitt includes no reference to Eriugena's commentary in his 'The Status of the Mechanical Arts'.

⁴³ Note 41.

twofold definition (the mechanical arts come about by imitation or by human devising) positions them as products of man's external engagement with the world, his inventing on the basis of what he sees around him. It seems primarily intended to set the mechanical arts in contrast to the liberal arts which, as Eriugena says in the previous sentence, are not 'assumed from any other place', 'nec aliunde assumuntur', but arise internally. In this brief description, the mechanical arts appear as the artificial or 'acquired' counterpart to the liberal arts, that allow us to cope corporeally, in the physical world, while the 'natural' liberal arts belong to and sustain our inner lives.

Eriugena's distinction between the liberal and the mechanical arts might be seen to echo roughly the distinction, going back to Cicero, and central to the myth of wisdom and eloquence, between wisdom (Philology) as an innate and native power, and eloquence (Mercury) as 'an art, a study, a skill'.⁴⁴ While Eriugena gives us no direct or explicit reasoning for his addition of the *artes mechanicae* as the dowry received by Mercury from Philology in his annotation to the marriage episode, one could argue there is a clue to his logic embedded in this short, later annotation: that is, the mechanical arts imaginatively 'match with' eloquence as *learned* skills, that improve our natural state – as the liberal arts match, or serve, Philology as 'naturally comprehended' arts.

At the same time, we know that within this marriage, eloquence (or Mercury) acts 'on' wisdom (Philology). As Cicero explained (and as is central to the whole structure and meaning of *De nuptiis*), eloquence is required to *cultivate* wisdom, to help realise the soul's potential *for* the liberal arts. Is there a sense, then, in which the mechanical arts, arguably 'matching with' the practical skill of eloquence, also 'gloss' the *process by which* wisdom is realised? In other words, are they more than a random choice? Do they have an intended imaginative function as Mercury's dowry, the equivalent to Philology's dowry? Given the brevity of Eriugena's remarks there is, of course, no discoverable answer to such questions. What we could say, perhaps, is that the text is open to such questioning. Eriugena's distinction between the liberal and mechanical, in terms which to some extent echo the distinction between Philology and Mercury, invites us to consider that at some level the mechanical arts could have been intended to invoke the artificial, acquired skill (the 'devising') Mercury brings to wisdom – and which (concomitantly) underpins ascent through the liberal arts.

⁴⁴ '...artis sive studii sive exercitationis' cited above n. 17, p. 26.

This reading could be developed with reference to David Summers' remarks on the appearance of the term 'mechanical arts' in Eriugena's commentary, in his book *The Judgement of Sense*. First of all, Summers summarises Eriugena's gloss distinguishing the liberal and mechanical arts (in roughly the same way we have above):

The liberal and mechanical arts are thus opposed as inner and outer, and for our purposes it is crucial that inwardness and outwardness are associated with higher and lower faculties, the lower of which is called *excogitatio*. The mechanical arts deal with the world of sense and subjection to circumstance, the liberal arts deal with the world of mind and the autonomous rational soul.⁴⁵

Then, elsewhere in his book, Summers examines the meaning of the term *excogitatio* – here the 'lower faculty' relevant to the mechanical arts – outside of Eriugena's commentary. In classical Latin, Summers says '*cogitare* meant to consider thoroughly, to turn over in the mind, picture to oneself, intend, design, or plan.'⁴⁶ He goes on that,

Excogitatio covered a similar range of meaning but also meant to contrive or devise, and *excogitatus* meant "choice" or "select". It might be argued that the simple metaphor underlying these terms, as Augustine suggested, was that of gathering, collecting, and uniting. This simple metaphor was deeply important, however, because in such gathering, which might be called the first activity of mind, mind itself becomes visible. By "gathering" our experience, we form universals and form the idea of the beautiful, and at the level of gathering, which is always by some individual, sensation becomes individual thought, memory, and imagination.⁴⁷

Here, then, Summers elucidates how for classical Latin writers, and for Augustine, the ostensibly lower faculty of *excogitatio* (which Eriugena associates with the mechanical arts) contributed to the higher faculties. The 'gathering, collecting, and uniting' of experience this faculty denoted was considered the basis of human imagining and forming of universals. To illuminate this participation of *excogitatio* in the higher operations of the mind, Summers highlights how 'Cicero made *excogitatio* a part of his definition of rhetorical invention: "Inventio est excogitatio rerum verarum aut verisimilium", which might be translated as "invention is the imagination and selection of true and probable things".⁴⁸ For Cicero, eloquence itself began in 'devising', or as Summers translates *excogitatio*, an 'imagination and selection' of things – arguments,

⁴⁵ David Summers, *The Judgement of Sense: Renaissance Naturalism and the Rise of Aesthetics* (Cambridge, UK 1987), p. 244.

⁴⁶ Ibid., p. 198.

⁴⁷ Ibid., p. 199

⁴⁸ Ibid.; Cicero, *De inventione* 1.7.

impressions, experiences.⁴⁹ It is from this basis, of ‘gathering’ the raw data of experience, that we go on to form ideas and images in our minds – through which in turn, according to Summers, ‘mind itself becomes visible’. Understood in this way, rhetorical *excogitatio* (defined at 1.7 of *De Inventione*) seems to be precisely the intellectual process (or key to the process) dramatised in Cicero’s origin myth at 1.1. The story of the eloquent man who ‘gathered and assembled’ scattered, uncivilised men ‘in accordance with a plan’ (*ratione quadam compulit unum in locum et congregavit*), and in the process uncovered their potential for wisdom, reads essentially as a metaphor for this first step in the rhetorical process, and its ultimate effect of self-recognition.⁵⁰

While it is unnecessary to insist that Eriugena was making deliberate reference to Cicero’s use of *excogitatio* in his annotations on Martianus, we know that he was familiar with the *De Inventione* (the earliest source for the union of wisdom and eloquence available to him).⁵¹ He must have known Cicero’s definition and terminology for the first procedure of eloquence, before he used the particular word *excogitatio* to describe the mechanical arts, *given* to eloquence. This correspondence of terms should not, of course, be used to attribute a special and determinate meaning to the mechanical arts in the commentary. But it is worth highlighting. The fact that Eriugena chose a word which defined rhetorical invention in one of his key sources to describe the ‘mechanical arts’, allows us to ponder the possibility these arts were inserted to reflect the ‘human devising’ brought by eloquence *to* wisdom.

At this point, we can recapitulate our findings with reference to an ancient (and medieval) concept encountered in the introduction – that of *poiesis*. The image of eloquence that emerges in Cicero, in Martianus, and perhaps also through the lens of Eriugena’s inserted mechanical arts, could be seen as testament to the legacy of this epistemological model. *Poiesis*, as set out in the introduction, referred to ‘making’ in the ancient world, and was used to designate a huge variety of activities we would now consider distinct. Specifically, it included verbal invention alongside physical acts of ‘making’, like weaving or building. This is why ‘poetry’ is the basic verbal ‘style’ of the ancient world: because it was seen as a necessity. Verbal invention was by definition poetic,

⁴⁹ Summers translates *rerum* as ‘things’. In the Loeb translation by H. M. Hubbell *rerum* is translated as ‘arguments’, and a few lines later as ‘matter’ or ‘subject matter’, to be fitted with words (*verba*): pp. 18–21. Rhetorical invention is the first of five parts of rhetoric, or eloquence, described at *De Inventione* 1.7 – the others being arrangement (*dispositio*), expression (*elocutio*) memory (*memoria*), and delivery (*pronuntiatio*).

⁵⁰ Above, pp. 26–27, n. 18.

⁵¹ See Stephen Gersh, ‘Eriugena’s *Ars Rhetorica* – Theory and Practice’, in *Ioannes Scottus Eriugena: The Bible and Hermeneutics: Proceedings of the Ninth International Colloquium of the Society for the Promotion of Eriugenan Studies*, ed. by Gerd Van Riel, Carlos Steel and James McEvoy (Leuven 1996), pp. 261–278, at 273.

or poietic – an imitation and ‘remaking’ of the world’s materials into the shape of the mind. While Cicero is interested in oratory, in political speeches – not in the composition of epics – his mythological introduction and definitions in *De Inventione* suggest he sees oratory and rhetoric at least partly in this ‘poietic’ light, as a recuperation and ‘making sense’ of experience through language.⁵²

Cicero’s later readers, Martianus Capella and Eriugena, seem committed to this classical attitude and to preserve it in their own works. Martianus describes the realisation of wisdom, or the ascent of the soul, through the ‘crafty’ work of eloquence, or Mercury: a tamer of natural and supernatural boundaries through speech and song. Eriugena’s addition of the ‘mechanical arts’ as Mercury’s *ancillae* is at no point explicitly explained or justified in his ninth-century commentary. Hence the tendency by previous scholars to overlook the potential significance of these arts within the story, and instead to read them as a foreshadowing of later scientific interests.⁵³ As against this tendency, I propose that Eriugena’s addition of these arts, ‘made by a certain imitation or by a human devising’ (*imitatione quadam vel excogitatione humana fiunt*) could be interpreted as a partly allegorical move. In many ways, these mundane arts correspond to the characterisation and role of eloquence in the allegory, and in Cicero’s definition and origin myth before it – as the practical, ‘acquired’ and we might say ‘poietic’ counterpart to (and cultivator of) wisdom. Were we to take this reading further, we might say that the mechanical arts simultaneously hold up a kind of mirror to the liberal arts in Martianus’ story – that they picture for the reader how the higher arts, received by Philology and ‘comprehended naturally in the soul’, also demand the acquired skill and *excogitatio* of Mercury in order to become visible or actualised in the soul.

To come back to Hugh of Saint-Victor’s introduction to the mechanical arts – as the ‘seven handmaids which Mercury received in dowry from Philology’, elaborated with reference to Cicero’s account of eloquence in *De Inventione*, it is clear that these references alone do not tell us unequivocally that Hugh took a metaphorical view of the mechanical arts. Yet it would be equally wrong, I think, to write off these citations as meaningless, to assume that the mechanical arts’ place in the marriage of wisdom and eloquence – which Hugh draws our attention to from the off – had no significance for his view of mechanics. Given his allegorical introduction, and

⁵² We return to the presence of cosmogonic vocabulary in Cicero’s rhetorical treatises in Chapter Two, pp. 60–61.

⁵³ Above, p. 32.

putting to one side the claims of more recent historians about Hugh's status as an 'engineer' that have coloured readings of him in the past, it seems possible to speculate that he thought of the *artes mechanicae* as having a meaningful part to play in the knowledge-structure of the *De nuptiis*. He could very well have seen these arts, I think, as an addition that glossed the excogitative practice of eloquence, and by extension the skill in invention, in gathering and re-imagining experience required in the practice and perfection of the liberal arts.

Before moving on to the second section of this chapter – where I want to speculate further on this more complex attitude to the mechanical arts with reference to Book One of the *Didascalicon* – it is worth highlighting that in the same breath as Hugh introduces the mechanical arts as handmaids in the union of wisdom and eloquence, he maps the mechanical arts onto the liberal arts, remarking on the 'likeness' between the arrangement of the two categories. When he defines the mechanical arts as fabric making, armament, commerce, agriculture, hunting, medicine, and theatrics, he adds:

Three of these pertain to extrinsic cover for nature, by which she protects herself from harms, and four to the intrinsic, by which she feeds and nourishes herself. In this division we find a likeness to the trivium and quadrivium, for the trivium is concerned with words, which are extrinsic, and the quadrivium investigates concepts, which are intrinsically conceived.⁵⁴

George Ovitt has suggested that 'this analogy was necessary in order to lend legitimacy to the inclusion of the mechanical arts'.⁵⁵ Indeed, the details of the 'likeness', *similitudo*, Hugh discerns here – the way the trivium and first three mechanical arts deal with 'intrinsic' things, and the quadrivium and last four mechanical arts with 'extrinsic' things – is not pursued in his discussion of the arts in the following chapters. It reads less as a fully thought-out 'theory' of the mechanical arts than as an effort to show the reader how these arts fit within or against the structure of the higher disciplines. This effort does not have to be the product, however, of a desire to give 'legitimacy' to the inclusion of the mechanical arts. It might also be informed by Hugh's understanding of these arts within the union of wisdom and eloquence, as a parallel set of

⁵⁴ '...ex quibus tres ad extrinsecus vestimentum naturae pertinent, quo se ipsa natura ab incommodis protegit, quattuor ad intrinsecus, quo se alendo et fovendo nutrit, ad similitudinem quidem trivii et quadrivii, quia trivium de vocibus quae extrinsecus sunt et quadrivium de intellectibus qui intrinsecus concepti sunt pertractat.' Hugh of Saint-Victor, *Didascalicon* 20.20, Buttimer, p. 39; Taylor, p. 75. I have made some adjustments to Taylor's translation, for example, where he uses 'external' and 'internal' for Hugh's *extrinsecus* and *intrinsecus*, I have used the more literal 'extrinsic' and 'intrinsic'.

⁵⁵ Ovitt, 'The Status of the Mechanical Arts', p. 93.

handmaids to the liberal arts (as he immediately goes on to describe: ‘these are the seven handmaids which Mercury received in dowry from Philology...’). It could be seen as an attempt to make sense of the relationship of the two categories set in place by Eriugena. The mechanical arts are not metaphors for the liberal arts here, but they are positioned as *revealing* of the liberal arts’ processes. The way the mechanical arts devise cover and sustenance for nature throws light on, or clarifies, even, the way the liberal arts devise words and concepts in the mind or soul. Invention as it takes place in the lower category helps to define patterns of invention in the higher category; the former might even be said to be exemplary of the latter here. In the next part of the chapter, I want to show how this analogical relationship between the liberal and mechanical, arguably a way of enlarging on the knowledge-structure of Eriugena’s commentary, is preceded by (and thus should be read together with) a very clearly metaphorical take on the mechanical artist, as a figure for imagination, reasoning, and thought, in the first book of the *Didascalicon*.

II. The Mechanical Artist as *Poietes*

Indeed, as we move on in Book Two, the analogy or *similitudo* Hugh lays out in the passage above receives no specific elaboration. Hugh restates the difference, or rather opposition, between the liberal and mechanical arts in more straightforward terms:

These arts are called mechanical, that is adulterate, because their concern is with the artificer’s product, which borrows its form from nature. Similarly, the other seven are called liberal because they require minds which are liberal, that is free and practised.⁵⁶

Despite framing the mechanical arts within the marriage of Philology and Mercury, and developing the ‘similitude’ of the liberal and mechanical (as suggested by the marriage structure), on the whole Book Two discusses the mechanical arts in this literal vein: as a distinct domain of pursuits, with its own tools, procedures, and practitioners – as attested by the ‘lively’ catalogues

⁵⁶ ‘hae mechanicae appellantur, id est, adulterinae, quia de opere artificis agunt, quod a natura formam mutuatur. sicut aliae septem liberales appellatae sunt, vel quia liberos, id est, expeditos et exercitatos animos requirunt.’ *Didascalicon* 2.20, Buttimer, p. 39; Taylor, p. 75. Taylor translates the adjective *expeditus* as ‘liberal’ to match *liber* exactly (so that the passage reads, in his rendering, ‘...require minds that are liberal, that is liberal and practised.’). I have opted for ‘free’, but could also have chosen ‘unencumbered’ or ‘ready’: all given as English cognates for *expeditus* by Charlton T. Lewis and Charles Short, *A Latin Dictionary* (Oxford 1879) available online at Perseus Digital Library ed. by Gregory R. Crane, Tufts University <http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0060:entry=expeditus> [accessed 1 October 2018].

described earlier. The potentially ‘poietic’ aspect of the mechanical arts, their more complex, imagined relationship to eloquence and the higher disciplines, which can be inferred when we backtrack through Cicero, Martianus, and Eriugena, remains by and large unrealised and unspoken.

While Book Two concerns the ‘distinguishing of the arts’, *de discretione artium*, the shorter Book One concerns the origin of the arts, *de origine artium*. Here, at the start of the *Didascalicon*, we find Hugh making distinctions between the ‘parts’ of philosophy as in Book Two, but also pondering the nature and purpose of philosophy as a whole. In this context, Hugh engages more freely, I want to suggest, with the ancient ideal and imagery of education as *poiesis* – a ‘making’ of knowledge through sensory engagement with nature. And as he does so, he draws on the imagery of the *artes mechanicae* – unravelling, consciously or subconsciously, the implications of their position in the union of wisdom and eloquence. As I said earlier, Hugh’s reference to the sphere of *mechanica* in this book has been looked at by previous scholars – but largely as an ‘add-on’ to the technical catalogues of Book Two. Here we can remedy that inadequacy by considering more closely the actual aims of Book One – which draws on Ciceronian lore, at the time as the system of Plato’s *Timaeus*, to introduce students to the poietic craft of wisdom and salvation. This book can be seen to give us the expansive, imaginative picture of mechanical art, as exemplary of liberal art, that anticipates its importance to the Chartrians.

World-making

Hugh opens his first book:

Of all things to be sought, the first is that Wisdom in which the Form of the Perfect Good stands fixed. Wisdom illuminates man so that he may recognise himself; for man was like all the other animals when he did not understand that he had been created of a higher order than they.⁵⁷

This opening strongly echoes the opening origin myth of Cicero’s *De Inventione*. Being ‘illuminated’ by wisdom, recognising ourselves, is put in terms of our relationship with the animal kingdom. Becoming wise is recognising we were created ‘of a higher order’ than they, that we

⁵⁷ ‘Omnium expetendorum prima est sapientia, in qua perfecti boni forma consistit. sapientia illuminat hominem ut seipsum agnoscat, qui ceteris similis fuit cum se prae ceteris factum esse non intellexit.’ *Didascalicon* 1.1, Buttner, p. 4; Taylor, p. 46.

can live rationally, above the level of nature and necessity. As in Cicero, this description of the ‘origin’ of philosophy helps to set out and even visualise the individual’s philosophical mission, the civilizing mission of the liberal arts in the soul.⁵⁸ Hugh goes on – in what is perhaps one of the most demanding passages of the encyclopaedia:

An opinion approved among philosophers maintains that the soul is put together [*compactam*] out of all the parts of nature. And Plato’s *Timaeus* formed the entelechy out of substance which is ‘dividual’ and ‘individual’ and mixed of these two; and likewise out of nature which is the ‘same’ and ‘diverse’ and a mixture of this pair, by which the universe is defined. For the entelechy grasps ‘not only the elements but all things that are made from them’, since, through its understanding, it comprehends the invisible causes of things and, through sense impressions, picks up the visible forms of actual objects. ‘Divided it gathers movement into two spheres’ because, whether it goes out to sensible things through its senses [*per sensus ad sensibilia exeat*] or ascends to invisible things through its understanding [*per intelligentiam ad invisibilia ascendat*], it circles about, drawing to itself the likenesses of things; and thus it is that one and the same mind, having the capacity for all things [*capax universorum*], is fitted together out [*coaptatur*] of every substance and nature by the fact that it represents within itself their imaged likeness [*similitudinis repraesentet figuram*].⁵⁹

In his translation of the *Didascalicon*, Jerome Taylor provides two pages of explanatory notes for this one passage.⁶⁰ It is not my concern to give a comprehensive account of its implications. What interests us is the imagery of artifice, ‘making’, and imitation Hugh uses to characterise the soul here. The soul is ‘put together’ out of the parts of nature, he says, using the term *compactam*, from the verb *compingere*, ‘to attach’, ‘bind’, or ‘join’. The source for this view or ‘opinion’ about the soul – ‘approved among philosophers’ – is given as Plato’s *Timaeus*. Specifically,

⁵⁸ That the recognition of wisdom is the mission of philosophy is made clear shortly later at 1.2 (Buttimer, p. 6; Taylor, p. 48): ‘Philosophy then, is the love and pursuit of Wisdom’ (‘Est autem philosophia amor et studium...sapientiae’); repeated at the opening of Book Two, cited above, p. 21, n. 2. That Philosophy is in turn ‘the arts’ was commonly understood from the works of Boethius, Cassiodorus and others. See, for example, figure 4 in this thesis and Hugh’s further comments at 2.1 (Buttimer, p. 23; Taylor, p. 61, and notes pp. 195–196): ‘This, then, is what the *arts* are concerned with, this is what they intend, namely, to restore within us the divine likeness... The more we are conformed to the divine nature, the more to we possess wisdom...’. My emphasis. (‘Hoc ergo omnes artes agunt, hoc intendunt, ut divina similitudo in nobis reparetur, quae nobis forma est, Deo natura, cui quanto magis conformamur tanto magis sapimus.’)

⁵⁹ ‘probata apud philosophos sententia animam ex cunctis naturae partibus asserit esse compactam. et *Timaeus* Platonis ex dividua et individua mistaque substantia itemque eadem et diversa, et ex utroque commixta natura, quo universitas designatur, entelechiam formavit. ipsa namque et initia et quae initia consequuntur capit, quia et invisibiles per intelligentiam rerum causas comprehendit, et visibiles actualium formas per sensuum passiones colligit, sectaque in orbes geminos motum glomerat, quia sive per sensus ad sensibilia exeat sive per intelligentiam ad invisibilia ascendat. ad seipsam rerum similitudines trahens regyrat, et hoc est quod eadem mens, quae universorum capax est, ex omni substantia atque natura, quo similitudinis repraesentet figuram, coaptatur.’ Ibid. 1.1, Buttimer, pp. 4–5; Taylor, p. 46.

⁶⁰ Taylor, *The Didascalicon*, pp. 177–180.

Hugh is employing the imagery of Plato's 'entelechy', also known as the World Soul or *anima mundi*.⁶¹ In Plato's text (accessible to Hugh via Calcidius' translation and commentary) this referred to the production of the divine demiurge – the 'intelligent' cosmos he forged out of chaos. Yet Hugh uses it for the human soul, to describe our own potential for self-recognition and wisdom.⁶²

As introduced earlier, the *Timaeus* was understood by twelfth-century intellectuals to have a reflexive structure and meaning.⁶³ The demiurge – whose technique Plato named as *poiesis* – could be seen as an image or dramatisation of the *poiesis* of the author (Timaeus, or Plato).⁶⁴ By extension, the World Soul that the demiurge creates shadowed the achievement of the author: it was the *world-in-the-soul* of the speaker, or rather the world *as articulated by* the speaker.⁶⁵ This explains Hugh's use of 'entelechy' – purportedly a macrocosmic thing – to idealise the human soul, the soul of the student and philosopher. Hugh, 'among [other] philosophers', understood the reflexive connotation of the *Timaeus* – as referring to the craft of the mind, or what one critic has called 'the craft of psychagogy'.⁶⁶ This myth, in combination with the Ciceronian doctrine (of *excogitatio*) was fundamental to Hugh's vision of human learning and salvation – as a poietic undertaking: a 'fitting together' (*coaptare, compingere*) of nature into an 'imaged likeness', *similitudo figura*.

In the third chapter of Book One Hugh discerns the 'threefold power of the soul', *De triplici vi animae*.⁶⁷ The first of the three powers is a vivifying power, which forms, nourishes, and sustains bodies and which we see at work in all living things.⁶⁸ The second is 'the judgement of sense perception', *sentiendi iudicium*, which (like the first power) belongs to man and animals alike, and seems close to what we would consider imagination.⁶⁹ It is 'a composite and conjoint power',

⁶¹ The 'entelechy' was in fact given as the term for Plato's *anima mundi* in Remigius of Auxerre's Commentary on Martianus Capella: see Taylor's note 7, p. 178.

⁶² This change of meaning is identified by Taylor in his 'Introduction', p. 26.

⁶³ Above, Introduction, p. 11 (note 57).

⁶⁴ For the metaphorical status of the *dēmiourgos* see for example John Magee's note to 28a in Calcidius' translation, (p. 718 of the edition), where he notes 'the metaphor targets the notion of an artisan who manipulates materials...and it reflects that the cosmology is a "myth" based on likelihood rather than scientific certitude.'

⁶⁵ See previous two notes, and Wetherbee, 'Philosophy, Commentary, and Mythic Narrative', pp. 222–225.

⁶⁶ Glenn R. Morrow, 'Necessity and Persuasion in Plato's *Timaeus*', *Philosophical Review* 59, 2 (1950), pp. 147–163, at 163.

⁶⁷ *Didascalicon* 1.3, Buttimer, pp. 7–10; Taylor, pp. 48–50.

⁶⁸ 'quarum quidem primae id officium est, ut creandis, nutriendis alendisque corporibus praesto sit...'. Ibid. Buttimer, p. 8; Taylor, p. 49.

⁶⁹ Ibid., Buttimer, p. 7; Taylor, p. 48.

Hugh says, ‘which subsumes the first [power] and makes it part of itself’.⁷⁰ It apprehends and retains impressions received by the senses, according to the ability of each animal. However, animals beneath man possess these impressions, Hugh says, ‘in a confused and unclear manner, so that they can achieve nothing from joining or combining them’.⁷¹ In order to make sense of them, the judgement of sense perception (or imagination) must attract the support of (*trahit*) the third power of the soul – reason – which belongs to man alone.⁷² Of this power, Hugh says,

It not only takes in sense impressions and images which are perfect and well founded [*perfectas et non inconditas*], but by a complete act of the understanding, it explains and confirms what imagination has only suggested [*quod imaginatio suggessit, explicat atque confirmat*]. And, as has been said, this divine nature is not content with the knowledge of those things alone which it perceives before its senses, but, in addition, it is able to provide even for things removed from it names which imagination has conceived from the sensible world [*ex sensibilibus imaginatione concepta*], and it makes known, by arrangements of words, what it has grasped by reason of its understanding.⁷³

Thus, the conjoining of sense impressions in the power of *sentendi iudicium* (shared by animals) does the groundwork for human understanding. Throughout this chapter, Hugh can be seen to stress the interdependence of the three powers: reason, while a separate faculty that distinguishes us from all the other living creatures, is in many respects an extension of imagination, its ‘judging’ part. It is what makes this second power effective (for in animals, the judgement of sense produces impressions, but it cannot join them to any useful effect). Hugh describes how reason takes the imagination’s images, which are ‘perfect and well founded’, or ‘not irregular’ (*perfectas*

⁷⁰ ‘composita atque coniuncta est, ac primam sibi sumens, et in partem constituens...’. Ibid. Buttimer, p. 8; Taylor, p. 49. Hugh’s view of the judgement of sense (or imagination) as a ‘composite’ power has a correlate in his view of the sacraments – described, in his *De Sacramentis*, as ‘re-making’ or ‘re-fashioning’ human nature in God’s likeness. For Hugh, the sacraments ‘mend’ the soul, left ‘fragmented’ by the Fall. Like the liberal arts, they appear to conform to (and confirm) his basically artificial or ‘mechanical psychology of knowing’. See *De Sacramentis* 1.9 and 1.10. The language of reformation, restoration, and (occasionally) ‘refashioning’ and ‘remaking’ in Hugh’s theology (but not in his characterisation of philosophy and the liberal arts) has recently been discussed by Boyd Taylor Coolman, in *The Theology of Hugh of St. Victor: An Interpretation* (Cambridge, UK 2010). The application of this language to the sacraments is discussed at pp. 103–123, esp. 119–121. The manipulation of this imagery by later medieval allegorists Guillaume de Deguileville and John Lydgate to comment on penitential instruction (‘shaping souls’) is the subject of a chapter of Lisa Cooper’s *Artisans and Narrative Craft*, pp. 106–145.

⁷¹ ‘sed eas imaginationes confusas atque inevidentes sumunt, ut nihil ex earum coniunctione ac compositione efficere possint...’. *Didascalicon* 1.3, Buttimer, pp. 8–9; Taylor, p. 49.

⁷² ‘sed vis animae tertia, quae secum priores alendi ac sentiendi trahit...’. Ibid., Buttimer, p. 9; Taylor, p. 49.

⁷³ ‘...quae non solum sensus imaginationesque perfectas et non inconditas capit, sed etiam pleno actu intelligentiae, quod imaginatio suggessit, explicat atque confirmat. itaque, ut dictum est, huic divinae naturae non ea tantum in cognitione sufficiunt, quae subiecta sensibus comprehendit, verum etiam ex sensibilibus imaginatione concepta, et absentibus rebus nomina indere potest, et quod intelligentiae ratione comprehendit, vocabulorum quoque positionibus aperit.’ Ibid.; Taylor, pp. 49–50.

et non inconditas) to form concepts and names, not only for things accessible to sense, but also for those things removed from sense, *absentibus rebus*, by inferring and extrapolating from the former. It makes known these new things by ‘arrangement of words’, (*vocabulorum...positionibus*). Thus, while reason, which makes the ‘discovery of things unknown’, is above our ‘composite and conjoint power’, in Hugh’s description it is also reliant upon it; it completes its work. The way the mind ‘seeks after things not known’, *ignota vestiget* (and perhaps Hugh would include divine matters in this category) is intimately tied up with, and seems in many ways inseparable from, its gathering and sorting of its experiences and impressions.⁷⁴ The activation of reason can be seen as a largely ‘poietic’ endeavour here – which accords with Hugh’s description of the soul as entelechy drawing from the *Timeaus*. As in that complex passage at the opening to Book One, here Hugh (while he establishes a hierarchy of faculties) also marks no firm line or cut-off point between the *makings* of the mind, its recombination of experiences of the outside world and nature, and its *knowledge* of things not directly present in the world and nature. The one appears to occur in and through the other, knowledge through making.

The soul as mechanical artist

Some lines after his description of the human entelechy, Hugh discusses the soul’s imitative internalisation of nature with reference to the mechanical art of metalwork, or minting:

We see how a wall receives a likeness when the form of some image or other is put upon it from the outside. But when a coiner imprints a figure upon metal, the metal, which itself is one thing, begins to represent a different thing, not just on the outside, but from its own power and its natural aptitude to do so.⁷⁵

This image seems on the one hand designed to downplay the role of external stimuli in the soul’s formation. Hugh wants to show ‘the soul grasps the similitude in and of itself, out of a certain native capacity and proper power of its own’.⁷⁶ Yet as with his account of the three powers of the

⁷⁴ Hugh continues, ‘For it belongs to this nature, too, that by things already known to it, it should seek after things not known...’. (*illud quoque ei naturae proprium est, ut per ea quae sibi nota sunt, ignota vestiget...*). Ibid.; Taylor, p. 50.

⁷⁵ ‘videmus cum paries extrinsecus adveniente forma imaginis cuiuslibet similitudinem accipit. cum vero impressor metallo figuram imprimit, ipsum quidem non extrinsecus, sed ex propria virtute et naturali habilitate aliud iam aliquid representare incipit.’ Ibid. 1.1, Buttner, p. 5; Taylor, p. 47.

⁷⁶ ‘neque enim haec rerum omnium similitudo aliunde aut extrinsecus animae advenire credenda est, sed ipsa potius eam in se et ex se nativa quadam potentia et propria virtute capit.’ Ibid.

soul – where reason is above imagination, and works intimately with imagination – Hugh cannot do away with the external *impressor* (the ‘coiner’), signifying the role of sense. What this metaphor seems in fact to demonstrate is not so much that the soul is self-sufficient and takes its shape independently of sensation, but that the soul has an active part in the realisation of its received impressions; that external influence is not ‘all’. The soul is not a passive surface, like a wall (*paries*), which shows an image on its outside. It is more like a metal, in that it receives an image, but *as it does so*, changes its shape and thus remakes that image by and within itself, ‘from its own power and natural aptitude to do so’. Given our discussion of Hugh’s third chapter, *De triplici vi animae*, this image could be seen to visualise how the impressions gathered by ‘sentiendi iudicium’ are ‘made sense’ of *by* the higher power of reason. The changing form of the metal under the figure seems to illustrate how (as Hugh explains in his third chapter) images are not just put inside the mind, from without, but grasped and clarified actively by the mind’s rational power to become part of its intellectual shape and make-up.⁷⁷

This brief mechanical image for the soul as metal, changing in and of itself with the impression of the coiner’s stamp, is succeeded later in Book One by a passage (partially cited in my introduction) which draws more extensively on the processes of mechanical art to evoke, it seems, how the soul is made in the image of its impressions. This reference takes the form of a division of the cosmos into three works:

The work of God is to create that which was not, whence we read ‘In the beginning God created heaven and earth’; the work of nature is to bring forth into actuality that which lay hidden, whence we read ‘Let the earth bring forth the green herb’, etc.; the work of the artificer is to put together things disjoined or to disjoin those put together, whence we read, ‘They sewed themselves aprons.’ ... Among these works, the human work, because it is not nature but only imitative of nature, is fitly called mechanical, that is adulterate.⁷⁸

⁷⁷ Hugh uses a similar image – of the soul or person as impressed matter – in chapter seven of his *De institutione novitiorum*, cited in Stephen Jaeger’s *The Envy of Angels: Cathedral Schools and Social Ideals in Medieval Europe, 950–1200* (Philadelphia 1994), pp. 258–259. The form of God’s likeness is engraved in good men, he says here, and ‘when through the process of imitation we are pressed against that likeness, we too are moulded according to the image of that likeness.’ This image involves an emphasis, again, on the agency of the matter that receives the impression; how it changes its own shape rather than passively receiving a picture. The wax has to be softened – and not by another’s hands but by the individual’s own effort to remove pride and contrariness.

⁷⁸ ‘... opus Dei, opus naturae, opus artificis imitantis naturam. opus Dei est, quod non erat creare. unde illud: In principio creavit Deus coelum et terram. opus naturae, quod latuit ad actum producere. unde illud: Producat terra herbam virentem etc. opus artificis est disgregata coniungere vel coniuncta segregare. unde illud: Consuerunt sibi perizomata... in his tribus operibus convenienter opus humanum, quod natura non est sed imitatur naturam, mechanicum, id est, adulterinum nominator.’ Ibid. 1.9, Buttimer, p. 16; Taylor, p. 55. There are analogues to this passage in Calcidius’ Commentary on the *Timaeus*, for example at 1.23 and 13.278; Magee, pp. 154–155 and 562–563.

Hugh continues that to describe how each kind of artisan imitates nature ‘is a difficult matter to pursue in detail’. For illustration, however, he gives ‘the founder who casts a statue [who] has gazed upon man as his model’, and ‘the builder who has constructed a house [who] has taken into consideration a mountain’.⁷⁹ Furthermore,

He who first invented the use of clothes had considered how each of the growing things one by one has its proper covering [*propria munimenta*] by which to protect itself [*defendunt*] from offense. Bark encircles the tree, feathers cover the bird, scales encase the fish, fleece clothes the sheep, hair garbs cattle and wild beasts, a shell protects the tortoise, and ivory makes the elephant unafraid of spears.⁸⁰

Man alone was brought forth ‘naked and unarmed’ – and thus he has to follow these examples to equip himself. Thus, it is not without cause, Hugh says, ‘that the proverb says “ingenious want hath mothered all the arts”’. From ‘ingenious want’, *ingeniosa fames*, ‘infinite varieties of painting, weaving, carving and founding have arisen, so that we look with wonder not at nature alone but at the artificer as well’.⁸¹ For ‘man’s reasoning shines forth much more brilliantly in inventing these very things than ever it would have had man naturally possessed them.’⁸²

This meditation on mechanical art can of course be read literally. At one level, Hugh is simply describing how man imitates, or adulterates, nature in his creation of artefacts. But he also gives mechanical art a wider field of reference. In this hierarchy of ‘three works’, the work of the artificer or *artifex* stands for all ‘human work’, *opus humanum*. Hugh inserts references from *Genesis*, giving as an example for ‘mechanical art’ Adam and Eve’s sewing of aprons after the Fall. In Hugh’s tripartite scheme all human endeavour is levelled under the *exemplum* of the mechanical artist – including, we can infer, the student of philosophy himself. This hierarchy reminds the reader of the necessitous origins of his ‘liberal’ art, that he is just another postlapsarian craftsman.

⁷⁹ ‘qui statuam fudit, hominem intuitus est. qui domum fecit, montem respexit.’ *Didascalicon* 1.9, Buttimer, p. 16; Taylor, p. 56.

⁸⁰ ‘qui usum vestimentorum primus adinvenit, consideravit quod singula quaeque nascentium propria quaedam habeant munimenta quibus naturam suam ab incommodis defendunt. cortex ambit arborem, penna tegit volucrem, piscem squama operit, lana ovem induit, pilus iumenta et feras vestit, concha testudinem excipit, ebur elephantem iacula non timere facit.’ Ibid. (Buttimer, p. 17).

⁸¹ ‘hac eadem pingendi, texendi, sculpendi, fundendi, infinita genera exorta sunt, ut iam cum natura ipsum miremur artificem’. Ibid.

⁸² See above, p. 2. ‘multo enim nunc magis enitet ratio hominis haec eadem inveniando, quam habendo claruisset.’ Ibid.

Indeed, the language of ‘joining and disjoining’ seems to rehearse the language Hugh used to describe the craft of the soul we encountered in his opening to Book One – ‘fitting together’ nature into an ‘imaged likeness’, *similitudo figura*. In Hugh’s formulation, the mechanical artist – founder, builder, clothier, or other – works upward from perception. He or she considers the various inventions ready-formed in God’s creation (‘how each of the growing things one by one has its proper covering’) and imitates or combines these into novel forms that suit a particular human ‘want’. In that mechanical process – or its inventions – Hugh emphasises, ‘Man’s reasoning shines forth much more brilliantly’ than ever it would have had man naturally possessed protection, dwelling, and so on.⁸³ Given such emphases, it seems possible to argue that mechanical art, what Hugh also calls simply ‘the human work’, provides an opportunity for Hugh to distil what the *soul does*, to illustrate through a real-life actor (the mechanic) the internal and interdependent processes of sense perception, imagination, and rational conception he has attempted to clarify earlier. That the mechanic’s reason shows itself in inventions that are in turn combinations and remakings of natural and animal *exempla*, echoes Hugh’s earlier lessons about how we arrive at ‘things unknown’ and ultimately recognise our own rationality through our composite and conjoint power, *sentienti iudicium*, itself reliant on sense.

The mechanical artist or *artifex* of Book One thus might be seen to embody our larger poietic responsibility. His ‘making’ can be read as physical making (at the literal level) but also as reflective of psychological or verbal making – a theme which actually frames the discussion of the *tria opera* in Book One. One might even argue (given Hugh’s appreciation of, and dependence on, the *Timaeus*) that the *opera* of God and nature which Hugh describes in the triple hierarchy (God creating that which was not; nature bringing forth into actuality that which lay hidden) are to be read as poetic creations or fictions, that arise *from* the mechanic’s (or the soul’s) joining and disjoining. Were we to extend the terms of his idealistic opening to Book One, these would correspond to the ‘likenesses’ – those ‘things not known’ – which reason generates by working with the compositions of imagination.

To conclude this section, while elsewhere in his first book, and in his later chapters on *mechanica*, Hugh insists on a distinction between the recovery of the ‘divine likeness’, the goal of the liberal arts, and ‘taking thought for the necessity of this life’, which is the goal of the

⁸³ Quoted above, p. 45, n. 82.

mechanical – in the passages quoted here, he seems less able to distinguish those enterprises. Hugh, as we have seen, is committed to hierarchies – of both disciplines (mechanical and liberal), and faculties (from the vivifying power to the rational power) – but when illustrating how certain of the higher faculties and disciplines actually ‘work’, he appears to take recourse to the language and imagery of artistic, specifically mechanical processes. The mechanical ‘part’ of philosophy (traditionally understood) is recruited to visualise or distil philosophical labour as a whole, to elaborate on what Cicero called the *cultura animi*. Whether or not Hugh would admit the charge, his first book, deeply informed in outlook by the *Timeaus*, Cicero, and Eriugena, puts the project of recovering our divine likeness, ostensibly via the liberal arts, in close relation to ‘taking thought for necessity’, and in ‘borrowing forms from nature’, activities ostensibly proper to the mechanical arts. These imitative and mundane habits of the artificer take on a separate metaphorical value in Hugh’s psychology, it seems, for imagining the *inner* habits of the liberal artist’s ‘free and *practised*’ mind, or soul.⁸⁴

Conclusion: from *poiesis* to poetry

In conclusion I want to summarise the findings of this chapter, but also to address a final distinction within the vision of the *Didascalicon* that will propel us forward – between the model of *poiesis*, which seems implicit in Hugh’s philosophical outlook, and the literary art of poetry, which by contrast he excludes from the philosophical project.

On the first count: this chapter has argued that Hugh of Saint-Victor’s inclusion of the *artes mechanicae* or *mechanica* as one of four categories making up philosophy can be read in more than one way. Historians of technology have thus far exercised a monopoly on the assessment of these arts. They have seen in his accounts of their individual products, tools, and procedures the imprint of a man eager to bring philosophy into touch with ‘daily life in the world at large, the world of blankets, saws, trade, meadows, beer, surgery, and amphitheatres’.⁸⁵

These ‘technical’ accounts – located in Book Two of the *Didascalicon* – are prefaced and framed in the terms of a marriage between ‘wisdom and eloquence’, or Philology and Mercury. In the first part of this chapter I attempted to show what these terms meant to Hugh – and how they

⁸⁴ See above, p. 38, n. 56.

⁸⁵ (Above, p. 22, n. 7).

might be used to rethink the significance of the *artes mechanicae* in his encyclopaedia. Attention to these terms' source in Cicero, Martianus Capella, and John Scotus Eriugena, suggested Hugh could have taken the mechanical arts, at least to some extent, as exemplary or illustrative of invention or *excogitatio* in general – and particularly of the invention, or craftiness, considered (going back to Cicero) proper to eloquence, and to the practice and perfection of the ('opposite') liberal arts.

In the second part of the chapter I aimed to show how a more complex, not entirely 'literal' view of mechanical art takes root in Hugh's first book, on the origins of philosophy. This first book testifies, I suggested, to Hugh's profound assimilation of Ciceronian and Platonic *paideia*. It introduces philosophy, and thus the liberal arts, as means by which man realises his potential for reason and elaborates on the interaction of sense and imagination in that pursuit. Hugh introduces the domain of *mechanica*, I proposed, to instance the poietic aspect of philosophy which emerges in the process – to evoke how the student of the liberal arts has to master and 'make sense' of nature en route to wisdom. In this opening discussion, 'liberal' and 'mechanical' projects become blurred: 'taking thought for necessity', consisting in the adulteration of nature to make new inventions, becomes a metaphorical tool for the inner processes of understanding elsewhere said or assumed to belong to liberal art.

Guided by his use of the mechanical arts, this discussion has therefore painted a picture of Hugh as a particular promoter of the imaginative faculty, and of a kind of 'poetic' philosophical practice. Yet as is well known – and as may well be levelled against this picture – when it came to the question of poetry as a literary form, whether poetry should be read or composed by students, Hugh was emphatic about its unsuitability. In Book Three he discussed the types of writings proper, or not proper, to the schoolroom:

There are two kinds of writings. The first kind comprises what are properly called the arts; the second, those writings which are appendages of the arts. The arts are included in philosophy: they have, that is, some definite and established part of philosophy for their subject matter – as do grammar, dialectic, and others of this sort. The appendages of the arts, however, are only tangential to philosophy. What they treat is some extra-philosophical matter. Occasionally, it is true, they touch in a scattered and confused fashion [*sparsim et confuse attingunt*] upon some topics lifted out of the arts, or, if their narrative presentation is simple, they prepare the way for philosophy [*viam ad philosophiam praeparant*]. Of this sort are all the songs of the poets – tragedies, comedies, satires, heroic verse and lyric, iambics, certain didactic poems, fables and histories, and also the writings of those fellows whom today we

commonly call ‘philosophers’ and who are always taking some small matter and dragging it out through long verbal detours, obscuring simple meaning in confused discourses [*facilem sensum perplexis sermonibus obscurare*] – who, lumping dissimilar things together [*diversa simul compilantes*] make, as it were, a single ‘picture’ from a multitude of ‘colours’ and forms [*quasi de multis coloribus et formis, unam picturam facere*].⁸⁶

Poetry (or ‘the songs of the poets’, *carmina poetarum*) falls into the second of two types of discourses: it is not of the arts, but one of the appendages of the arts, *appendentia artium*. This consignment of poetry beyond the sphere of the seven liberal arts, as extra-philosophical, can be seen given visual form in a later twelfth-century diagram, probably inspired by the programme of the *Didascalicon* (figure 6).⁸⁷

The passage quoted has been taken as evidence of an antagonism between the Victorine project and the Chartrian project.⁸⁸ The Chartrians – a group to which Bernard Silvestris and Alan of Lille are often seen to belong – saw the literary form of the *auctores* as a means of *doing* philosophy, as superior, even, for the discovery of ‘truth’ to the rational, prosaic discourse of scholars such as Hugh. Scholars commenting on this difference of attitude turn, in particular, to the latter part of the above passage (on ‘those fellows whom today we commonly call “philosophers”’).⁸⁹ Interestingly, this latter part (introduced after Hugh’s reference to the various ‘carmina poetarum’, with ‘etiam illorum’) could be taken not to refer to poets, but rather to logicians, new-age sophists. As we will see when we come to John of Salisbury, it was commonplace to introduce show-off logicians – a growing breed in twelfth-century Paris – in the terms Hugh uses here: as those who publically ‘call themselves’ philosophers (but who lack the

⁸⁶ ‘Duo sunt genera scripturarum. primum genus est earum quae propriae artes appellantur. secundum est earum quae sunt appendicia artium. artes sunt quae philosophiae supponuntur, id est, quae aliquam certam et determinatam partem philosophiae materiam habent, ut est grammatica, dialectica, et ceterae huiusmodi. appendentia artium sunt quae tantum ad philosophiam spectant, id est, quae in aliqua extra philosophiam materia versantur. aliquando tamen quaedam ab artibus discerpta sparsim et confuse attingunt, vel si simplex narratio est, viam ad philosophiam praeparant. huiusmodi sunt omnia poetarum carmina, ut sunt tragoediae, comoediae, satirae, heroica quoque et lyrica, et iambica, et didascalica quaedam, fabulae quoque et historiae, illorum etiam scripta quos nunc philosophos appellare solemus, qui et brevem materiam longis verborum ambagibus extendere consueverunt, et facilem sensum perplexis sermonibus obscurare. vel etiam diversa simul compilantes, quasi de multis coloribus et formis, unam picturam facere.’ *Didascalicon* 3.4, Buttner, p. 54; Taylor, p. 88.

⁸⁷ Ironically, the manuscript that contains this diagram includes poems written by its own compiler, Herard of Landsberg – testament, again, to the apparently contradictory opinions a single medieval author (and particularly authors of encyclopaedias) could hold. The manuscript is the *Hortus Deliciarum*, described further below, at p. 141, and the topic of a recent monograph by Danielle Joyner, *Painting the Hortus Deliciarum: Medieval Women, Wisdom, and Time* (Philadelphia 2016).

⁸⁸ See Taylor, *The Didascalicon*, pp. 211–212; Wetherbee, *Platonism and Poetry*, pp. 51–55; and Simpson, *Sciences and the Self*, pp. 232–233.

⁸⁹ Ibid.

learning).⁹⁰ But for Winthrop Wetherbee and Nicolette Zeeman amongst others, these men – with a special place at the end of Hugh’s list – who take some small matter and drag it out through detours, making verbal pictures from various colours and forms (*‘de multis coloribus et formis, unam picturam facere’*), seem to refer to yet another ‘kind’ of poet: those poets who *also* take themselves to be philosophers, such as those one might find at Chartres in the first half of the twelfth century.⁹¹ Wetherbee states, also citing the comments of Jerome Taylor, that Hugh’s criticisms in this part ‘correspond almost point for point with the practices of the Chartrians’, whether or not Hugh actually had the Chartrians in mind.⁹²

Nicolette Zeeman has suggested Hugh’s description fits in a long tradition of describing poetry as ‘figural, entangling, labor-intensive, and sometimes obscure’.⁹³ Taking Hugh’s target, like Wetherbee, to be a contemporary sub-group of the *poeta* (perhaps but not necessarily the Chartrians), Zeeman suggests specifically how, in engaging with this long tradition of characterising poetry’s oblique dealings with truth, Hugh’s condemnation contains seeds of a perhaps more ‘ambivalent’ attitude to poetry than has previously been observed.⁹⁴ ‘These lines’, Zeeman writes, ‘argue for linguistic opacity and polysemy as the defining feature of poetry’.⁹⁵ According to Zeeman, Hugh’s ‘exclusion of poetry from the canon may actually allow him to describe it more freely’.⁹⁶ What Hugh says here could, in fact, ‘be appropriated with or without the condemnation he wrote into it’.⁹⁷ Similarly, James Simpson, who also identifies Hugh’s description of writing that is *perplexus* as referencing poetry, has highlighted how the terms of the critique reveal a nuanced *understanding* of poetic composition – even if it is ultimately to be denounced:

⁹⁰ See the discussion of John of Salisbury in Chapter Three, below, pp. 78–80.

⁹¹ One might note, in support of this reading, that Hugh has already mentioned *dialectica* as having a subject matter that places it firmly within philosophy. It would perhaps be less coherent if he was returning to the topic of logicians or dialecticians at this later stage in his description of the *appendentia artium*. Furthermore, Hugh goes on, just after the long quotation cited, to quote Virgil (*Ecalogue* 5.16–17), writing ‘Between [the arts and the appendages of the arts], there is in my view such distance as the poet describes when he says: “As much as the wiry willow cedes to the pale olive, or the wild nard to roses of Punic red.”’ This metaphorical quotation from one of the best-known classical poets in Hugh’s day would arguably make greater sense deployed as an image for the relation of poetry to philosophy than it would for the relation of logic or sophism to philosophy. See Zeeman’s comments on Hugh’s use of Virgil’s image in ‘The Schools Give a License to Poets’, in *Criticism and Dissent in the Middle Ages*, ed. by Rita Copeland (Cambridge, UK 1996), pp. 151–180, at 173.

⁹² Wetherbee, *Platonism and Poetry*, pp. 54–55; Taylor, *Didascalicon*, pp. 211–212.

⁹³ Zeeman, ‘The Schools Give a License to Poets’, p. 172.

⁹⁴ *Ibid.*

⁹⁵ *Ibid.*, p. 172.

⁹⁶ *Ibid.*, p. 173.

⁹⁷ *Ibid.*, p. 174.

[Hugh] *certainly registers the formal complexity* of the works he is considering, and the wholeness of the finished artefact – he says that artist-philosophers seek to construct a ‘single picture’. But this aesthetic wholeness does nothing, in Hugh’s view, to strengthen the philosophical fragility of literature – its unsystematic, confused quality and its philosophically dependent status.⁹⁸

James Simpson goes on to contrast Hugh’s critique with a passage from the *Metalogicon* of John of Salisbury (c. 1159) – a student and later bishop of Chartres (who we return to later) – which offers a similar view of poetic composition, minus the condemnation:

For when the *auctores*, by way of *diacrisis* (which we may call *illustratio* or *picturatio*) took up the unformed matter either of a history of a verisimilar story, or of a fable, or any other narrative whatever, they refined it with such plenitude of learning, and with such grace of comparison and taste, that the completed work seemed to be in some way an image of all the arts.⁹⁹

Simpson suggests that,

This passage uses cosmological, Timaeian language to describe poetic making: the ‘rude material’ of the narrative is shaped and adorned by the poet’s knowledge and rhetorical skill, to produce an image, or picture...of all the arts. And this Timaeian language – a language of formation, embellishment, and wholeness – implies that the meaning of a work of literature is to be located in its wholeness; like the universe created, shaped and embellished by God, the *opus consummatum* of the poet finds its meaning through the inter-relation of its different parts.¹⁰⁰

This notion of poetry as a cosmic piecing-together is already implicit in Hugh’s ‘condemnation’. While Hugh’s own crude choice of terms is clearly designed to deter the student from the ‘hodgepodge’ efforts of poets, the actual process he describes, of ‘lumping dissimilar things together’, recalls and can be connected to his description of the ‘making’ soul in the opening to Book One – joining together the world of sense into the ‘well-founded’ likenesses of imagination. Arguably, he recognises and appreciates poetry’s *poietic* logic, just like (and thirty years before) John of Salisbury.

⁹⁸ Simpson, *Sciences and the Self*, p. 233. My emphasis.

⁹⁹ ‘Illi enim per diacrisim, quam nos illustrationem siue picturationem possumus appellare, cum rudem materiam historiae aut argumenti aut fabulae aliamue quamlibet suscepissent, eam tanta disciplinarum copia, et tanta compositionis et condimenti gratia excolebant, ut opus consummatum omnium artium quodam modo uideretur imago.’ John of Salisbury, *Metalogicon* 1.24. I use the Latin edition by John Barrie Hall and K. S. B. Keats-Rohan, *Corpus Christianorum Continuatio Mediaevalis* XCVIII (Turnhout 1991), p. 52; cited and translated by Simpson, *Sciences and the Self*, p. 234.

¹⁰⁰ Simpson, *Sciences and the Self*, p. 234.

At the same time, his account could be seen to offer a further instance of ‘mechanical art’ used to characterise imaginative art. Poetry is framed by Hugh, one could suggest, as the most direct literary expression of the ‘mechanical psychology’ – the ‘joining and disjoining’ of matter – that he elsewhere uses to depict man’s inner processes, his assimilation of sense materials into the images of imagination, that furnish the concepts and words of reason.¹⁰¹ He objects to it as a *discrete* literary form perhaps because most poems fail to convey, or they obscure, this psychological and ‘poietic’ rationale, uniquely visible in the cosmological and ‘pyschagogic’ poem of the *Timaeus*.¹⁰²

I do not intend, by this, to suggest Hugh would have embraced the ‘allegorical’ or ‘cosmogonic encyclopaedias’ of Bernard Silvestris and Alan of Lille. But, following Zeeman (and to some extent, Simpson), I think we can see that if Hugh disapproves of poetry, *qua poetry*, he describes its practice in his most approving metaphors. It is by the light of this criticism (a criticism so open to praise) that we can read the poetic works of the Chartrians – which are often aligned with the attitude of John of Salisbury, but might also be seen in a new relation to Hugh’s philosophy: as pursuing the poetic implications already at play within his pedagogic system.

As we see in the next two chapters, Bernard Silvestris and Alan of Lille used the poetic, or mythological form, according to its ancient rationale, as Plato had done: to demonstrate and to critique the mind’s effort to make sense of nature through sense and language. The liberal arts, and related scientific categories, are not classified and described, as they are in the *Didascalicon*, but personified – in the spirit of the *Timaeus*, and *De nuptiis* – as actors in a cosmological drama, tasked with ‘remaking’ the cosmic order. This ‘remaking’ also reflects the liberal or trivial artistry of the poet. Thus the poem – imagined as a *kosmos* – is to be read as ‘an image of all the arts’.¹⁰³ It is (we are persuaded) a picture composed *by* the arts.

In this context, the exemplary, poietic potential of *mechanica* that I have argued is implicit in Hugh’s *Didascalicon* becomes more fully realised. The liberal arts – imaginatively set into motion ‘re-making’ nature – are envisaged wholly through the lens of *mechanica*, as imitators of, and inventors from, natural materials. At the same time, in the works of Bernard and Alan, the

¹⁰¹ Simpson can be seen to register the artisanal (or mechanical) tone of Hugh’s language when he characterises Hugh’s view of the poem as an ‘artefact’, above, p. 51.

¹⁰² For the *Timeaus* as demonstrating the ‘craft of psychagogy’ see above p. 41, n. 66.

¹⁰³ I discuss the significance of the term *kosmos* in Chapter Two, below, pp. 64–65.

category of mechanics takes on an exclusively ‘Orphic’ colouring – to return to Hadot’s terms of reference. This ‘part’ of philosophy no longer has any literal place ‘under’ liberal art. It is accommodated solely dramatically, as a metaphor, or set of metaphors, for picturing the mind’s prolongation and transformation of nature. Approaching the philosophical project not only with respect to, but *as poiesis*, these later authors could be seen as having promoted the crafts considered under the designation of the *artes mechanicae* to a higher role in philosophy. These figure the very habits of eloquence, or of the ‘free and practised mind’ – bringing to fruition the exemplary potential of these lower *artes* in the often conflicted, provocative vision of the *Didascalicon*.

Thus, at this stage we leave behind Paris, and the 1120s, for the milieu of the Cathedral Schools, and the 1140s. There is a roughly twenty-year hiatus, and a shift in intellectual atmosphere, between the *Didascalicon* and the *Cosmographia*. Hugh is thought to have died in 1141, most likely before the *Cosmographia* was completed (or even begun). We cannot know if he and Bernard met, although it is possible Bernard attended one of Hugh’s lectures in Paris as a student. The lack of clear historical connection, and the very different forms their major works take, has often prevented the two authors from being discussed together (in the way that Hugh and Peter Abelard or Bernard and Alan are discussed together). If they have been connected – it is, as I have said, most often to highlight a twelfth-century ‘dispute’ about the usefulness of poetry. However, by the 1140s, Hugh’s *Didascalicon* had become a classic, relied on in the majority of French classrooms – and, like most leading scholars of the mid-twelfth century (whether or not they attended his classes), Bernard would have regarded Hugh as one of his mentors. His *Cosmographia* abandons the hard-and-fast divisions and prosaic form of Hugh’s encyclopaedia. But it does so, I argue, in a way that also pursues and exposes Hugh’s ‘inward’ pedagogical principles. It is born out of an intimate knowledge and scholarly dialogue with the *Didascalicon*. The ‘thread’ of the mechanical arts unlocks this symbiotic relationship between the two authors – all the richer for their flourishing decades and towns apart.

II.

The Mechanical Arts in the Commentaries and *Cosmographia* of Bernard Silvestris

Bernard Silvestris (figures 7 and 8) dedicated his major work, the *Cosmographia*, to Thierry of Chartres.¹ For this reason, he is commonly associated with the School at Chartres, where Thierry was a prominent figure and later chancellor. But he spent the majority of his career as a master at the neighbouring School of Tours, where he is likely to have completed the *Cosmographia*, sometime between 1141 and 1148.² As I have said, the *Cosmographia* is not – at first sight – an obvious contender for inclusion in a study of the medieval ‘mechanical arts’. It is an allegory written in a mixture of prose and verse (a *prosimetrum*).³ It centres on the actions of a set of personified abstractions, drawn from ancient philosophy and metaphysics (such as *Natura*, *Noys*, and *Physis*), as they embark on a project of cosmic and human reformation.

While its ‘mode’ is mythological, however, the *Cosmographia* is still ‘for’ the student of philosophy. Earlier I called it a ‘cosmological’ or ‘allegorical encyclopaedia’.⁴ Like the *Didascalicon*, its subject is the pursuit of the liberal arts and salvation – it is ‘encyclopaedic’ in conception and aim. The distinction lies in Bernard’s demonstrative approach to the presentation of knowledge. He imagines knowledge in *process* – an approach drawn ultimately from the example of Plato’s *Timaeus*, and new for an author of the Middle Ages. In the *Cosmographia*, *Noys*, *Natura*, and *Physis* reform the cosmos through handiwork; and like the

¹ Jeuneau, *Rethinking the School of Chartres*, p. 65. The Bernard of the *Cosmographia* was, in fact, long thought to be Bernard of Chartres. That they were distinct figures, Bernard of Chartres dying at least a decade before Bernard Silvestris wrote, was demonstrated by Barthélemy Hauréau, ‘Maitre Bernard’, *Bibliothèque de l’École des Chartres* 54 (1893), pp. 792–794; followed by Jules Alexandre Clerval, *Les écoles de Chartres au moyen âge, du XI^e siècle* (Chartres 1893); and Jules Alexandre Clerval, *Les écoles de Chartres au moyen âge, du V^e siècle au XVI^e siècle* (Chartres 1895), pp. 158–162. The identity of the two men was argued by C.-V. Langlois, ‘Questions d’histoire littéraire: Maître Bernard’, *Bibliothèque de l’École des Chartres* 54 (1893), pp. 225–250, at 237–247. For a summation of these arguments, see Mark Kauntze, *Authority and Imitation: A Study of the Cosmographia of Bernard Silvestris* (Leiden 2014), p. 15.

² Our chief evidence for his link to Tours is the account of his best-known student, Matthew of Vendôme, who wrote, ‘I was taught the art of composition by the glory of Tours, Master Silvestris, the jewel of studies and ornament of the school.’ (‘Me docuit dictare decus Turonense magistri Silvestris studii gemma, scholaris honor.’) *Epistola* 1.3.69–70, in *Mathei Vindocinensis Opera*, ed. by Franco Munari, 3 vols (Rome 1977–1978), 2: p. 90. For an account of the School at Tours in Bernard’s time, see the edition *Bernardus Silvestris: Cosmographia*, ed. by Peter Dronke (Leiden 1978), pp. 1–15. Winthrop Wetherbee suggests Bernard may also have taught at the School at Orléans in *Platonism and Poetry*, p. 104.

³ As was Martianus Capella’s *De nuptiis Philologiae et Mercurii*, above, p. 28, n. 24.

⁴ Above, pp. 11–12.

demiurge of the *Timaeus*, their activities reflect the author-student's 'making sense' of the world through language.⁵ They imagine the liberal (particularly trivial) arts as involving mental craft, a 'craft of thought'.

At no stage does Bernard mention the 'liberal' or 'mechanical' as discrete domains: there is no room, in the terms of this myth, for the sorts of divisions and catalogues we found in the *Didascalicon*. Yet – as Brian Stock perceived, in his 1972 monograph on the text – given Bernard's descriptions of the 'craft' of *Noys*, *Natura*, and *Physis*, he seems to have been 'predominantly interested in the mechanical arts'.⁶ Stock took this claim no further in his study; he was mostly interested in finding a contemporaneous term to pinpoint the handiwork which drives the narrative of the *Cosmographia*. But his observation is to the present point. In what follows, I suggest – for the first time – that Bernard's 'allegorical encyclopaedia' entails a promotion of the mechanical arts, as *an image for* the liberal arts, which brings to fruition the metaphorical and poietic aspect to *mechanica* seemingly present in Hugh's discussions a decade or two earlier.

We have seen how Plato's 'demiurgic' and 'poietic' personification of the soul was entrenched in Hugh's own pedagogical outlook – and engendered a more complex picture of the 'mechanical arts' in the *Didascalicon* than has previously been identified. Under the influence of Plato, as well as Cicero, Martianus, and Eriugena, Hugh conceived of the *artes mechanicae* as a discrete segment of the scientific hierarchy, beneath the liberal arts, but also at times, I have suggested, as an image *for* the liberal arts, imagination, and *ingenium*. On occasion Hugh was drawn to the mechanical artist as exemplary of the soul's *poiesis*, 'world-making', contrary to the liberal-mechanical hierarchy and distinction that he elsewhere maintained.

In his *Cosmographia* Bernard can be seen to enlarge on this second aspect, the 'exemplary flipside', of *mechanica*. Bernard's 'demiurgic' personifications, while they emulate the *Timaeus*, also constitute a consummation of Hugh's own Timaeian (and Eriugenan) take on *mechanica*, as a way of illustrating learning-as-making or language-as-making. By extension, they iterate (in the terms of Hadot's essay) a wholly 'Orphic' attitude to mechanical art. They confirm a twelfth-

⁵ Bernard's ultimate reference to the human *auctor* is the standalone subject of Linda Lomperis' article 'From God's Book', cited above p. 12, notes 60 and 61 (though, as I say, Lomperis fails to identify Bernard's source for this in the *Timaeus*).

⁶ Stock, *Myth and Science*, p. 196; and above, p. 13.

century view of mechanics that is in keeping with ancient thinking about the crafts, as ‘poetic arts’ or *poietike*, picturing our *mental* imitation and transformation of the world – which has been obscured by the customary study of these arts from the perspective of the history of science and technology.

The present chapter attempts to unravel this figurative, ‘Orphic’ presentation of mechanics in the *Cosmographia*. First, however, it turns to two commentaries attributed to Bernard, one on Virgil’s *Aeneid*, and the other on Martianus Capella’s *De nuptiis Philologiae et Mercurii*. While *mechanica* is never explicitly named in his *Cosmographia* – it does receive attention in these two surviving commentaries.⁷ Both rely on Hugh’s earlier classification, though they more openly detail, and elaborate on, the mechanical arts’ allegorical origin and meaning. They suggest Bernard’s ‘predominant interest’ in the mechanical arts as it informed his *Cosmographia* was related to, and possibly a product of, his awareness of this category’s ancestry as dramatic *personae*, as ‘handmaids to eloquence wed to wisdom’.

I. The Commentaries Attributed to Bernard Silvestris

Commentary on the *De nuptiis*

At the Cathedral Schools, and particularly at Chartres, Cicero’s wisdom and eloquence (and Martianus’ Philology and Mercury) became what Wetherbee has described as an ‘almost sacred theme for implying the mind’s power to attain truth through universal knowledge’.⁸ Bernard Silvestris is thought to have authored his own commentary on Martianus’ allegorisation, the *De nuptiis*, sometime between the early 1130s and 1150, and probably before he wrote a

⁷ The attribution of these commentaries to Bernard has not been definitively proven, but it is widely accepted. The modern editor of the *De nuptiis* commentary, Haijo Jan Westra, says that while it is difficult to be certain of its authorship, ‘it may be useful to retain the attribution’ to Bernard Silvestris: *The Commentary on Martianus Capella’s De nuptiis Philologiae et Mercurii Attributed to Bernardus Silvestris* (Toronto 1986), p. 10. Brian Stock discusses the same commentary in *Myth and Science*, pp. 33–54, noting Édouard Jauneau ‘thinks that the commentary was written by Bernard Silvester’ and that ‘even if it is not, it illustrates a view of literature and philosophy in fashion at both Chartres and Tours.’ (pp. 36–37). In other words, for Stock (and for Westra) it helps us to imagine a ‘Silvestrian’ take on Martianus, if we are not dealing with one already. The same arguments have been made about the commentary on the *Aeneid*. In a recent article, Kurt Smolak has compared the philosophy and language of the *Cosmographia* with the philosophy and language of both glosses, and concluded, ‘it is not improbable that Bernardus Silvestris is really the author of both commentaries’: ‘Two 12th century-commentaries on Martianus Capella and Virgil’, *Weiner Studien* 126 (2013), pp. 249–260. Wetherbee assumes (and implicitly argues for) their common authorship in his discussion at *Platonism and Poetry*, pp. 104–125. I follow that lead here.

⁸ Wetherbee, *Platonism and Poetry*, p. 26.

commentary on the first six books of the *Aeneid*.⁹ Both seem to predate, and prepare the ground for, his own myth, the *Cosmographia*.¹⁰

Martianus' allegory was made up of nine books, the first two describing the betrothal and marriage of Mercury and Philology, and the remaining seven describing each of the liberal arts in turn. As Andrew Hicks has noted – and as suggested by our analysis of Hugh – 'the twelfth century inaugurated a new focus on Martianus' introductory allegory'.¹¹ Bernard's commentary (consistent with this) is on only the first two books: the 'union' proper, and the 'Ciceronian' part of the text.

Like Hugh – in his introduction to the mechanical arts – Bernard quotes in his *accessus* to the commentary on the marriage from 'Tully's' *De Inventione*, on the necessity of wisdom bound to eloquence', showing his awareness of the allegory's classical and paideic roots.¹² Wetherbee notes that Bernard's commentary reads the union 'in terms of the intellectual pilgrimage from earthly to divine knowledge'.¹³ Throughout, Bernard emphasises the education and development of Mercury – who is presented, again to quote Wetherbee, as 'a link between the divine and human comprehension, and ... a means whereby the human soul may realize its situation and destiny'.¹⁴ Mercury presents an opportunity for that Chartrian, and indeed Bernardine, penchant to envisage 'the psychological aspect of the philosopher's experience'.¹⁵ Philology becomes an

⁹ These dates are suggested by Haijo Jan Westra, *The Commentary*, p. 9. Kurt Smolak posits that the commentary on Martianus was written before that on *Aeneid*, since the latter contains near-quotations from the former. Winthrop Wetherbee argues, by contrast, that the commentary on Martianus was written later, 'when Bernard's own thought had matured', since it is both more serious and more original than the gloss on Virgil (*Platonism and Poetry*, p. 111). It is not necessary for me to come down on either side of the argument, though as will become clear I (cautiously) opt for Smolak's thesis, since the *Aeneid* commentary does indeed seem to depend heavily on the Martianus commentary. Wetherbee himself admits this (see below, p. 62).

¹⁰ Scholars suspect, unsurprisingly, that a third Bernardine commentary on his central model of the *Timaeus* has been lost. Wetherbee, *Platonism and Poetry*, p. 111; Édouard Jeuneau, 'Notes sur l'École de Chartres', *Studi medievali* 5 (1964), pp. 845–850, at 846.

¹¹ Hicks, 'Martianus Capella', p. 319.

¹² 'In prohemio *Rhetoricorum* asserit Tullius eloquentiam sine sapientia multum obesse, sapientiam vero sine eloquentia parum prodesse. Hec autem est huius parva commoditas est illius vehemens importunitas quod sapientia, licet sola, mundanorum tamen naturam aperit eorumque contemptum suadet homini se predito.' *Commentum in Martianum* 2.125–130, Westra, p. 47.

¹³ Wetherbee, *Platonism and Poetry*, p. 105.

¹⁴ *Ibid.*, p. 87.

¹⁵ *Ibid.*, p. 92 (and cited above, p. 10). Bernard was probably inspired in his psychological allegorisation of Mercury by William of Conches' interpretation of Orpheus in a gloss on Boethius' *Consolatio Philosophiae* (Book Three). William suggested that Orpheus' search for Eurydice in the underworld (related in a song by Lady Philosophy) represented the philosopher's struggle to detach his attention from the world, and re-attach it to higher things. Bernard interprets Mercury in roughly the same way. This is discussed by Wetherbee in *Platonism and Poetry*, pp. 92–104.

even more passive figure than she was in the original: she represents the wisdom which this god of speech and poetry finds within himself.

Martianus had described, in the opening to the text, the ‘wanderings’ of Mercury prior to his betrothal – a re-imagining of the eloquent man’s emergence from ‘sylvan shelters’, *tectis silvestribus*, depicted in *De Inventione*.¹⁶ Looking for his brother Apollo, Mercury searched out temples, ‘but in these leading shrines and these deserted caves they found ... only a few leaves of withered laurel’.¹⁷ He went on through forests with ‘drooping boughs’, and past the violent rivers and whirlpools of Destiny, before he reached his goal.¹⁸ And then, to meet the mortal Philology, he was forced to make a descent to the lap of the earth. Bernard took special interest in these passages, which he interpreted as a metaphor for Mercury’s (or man’s) inner improvement. The descent to earth is cast in his commentary, for example, as the immersion in sense and experience necessary to the discovery of wisdom (Philology).¹⁹

This amplification of the psychological aspects of Martianus’ plot could be seen to extend to Mercury’s reception of the ‘handmaid’ mechanical arts in the commentary. Bernard provided his own classification of this dowry gift, as well as enlarging on its possible position in the scheme of *Scientia*. More or less following Hugh’s definition, he introduced the *ancillae* that are offered to Mercury by Philology by stating, ‘Mechanics is truly knowledge about human work complying to the necessities of the body’. Only now,

This has eight parts: fabric making, architecture, metalwork, commerce, hunting, agriculture, medicine, and the magical arts. While fabric making and architecture thrust off excess warmth or cold in the air, armour (metal-working) prevents annihilation, commerce, hunting and agriculture prevent poverty, and medicine prevents illness; the magical arts prevent unknown events.²⁰

¹⁶ Cicero, *De Inventione* 1.1; Hubbell, pp. 4–5 (and above, pp. 26–27).

¹⁷ ‘sed his adytorum fastigiis specubusque viduatis absque lauri arentis paucis admodum foliis vittisque semivulsis ...’. *De nuptiis Philologiae et Mercurii* 1.10, Willis, p. 6; Stahl et al., 2: p. 7.

¹⁸ Ibid., 1.10–22, Willis, pp. 6–11; trans. Stahl et al., 2: pp. 7–14.

¹⁹ Westra, ‘Introduction’ to *The Commentary*, p. 20.

²⁰ ‘Mechania vero est scientia humanorum operum corporeis necessitatibus obsequentium. Hec octo habet partes: lanificium, architectoriam, armaturam, navigationem venationem, agriculturam, medicinam, magicam artem. Retrudunt autem lanificium et architectoria aeris intemperiem ut calorem, algorem; armatura casulem mortem; navigatio, venatio, agricultura pauperiem; medicina morbos; magica ambiguitatem eventuum ...’. *Commentum in Martianum* 3.986–100, Westra, pp. 81–82. My translation.

Taken in its entirety, Bernard's description echoes Hugh of Saint-Victor's. Bernard gets eight rather than seven arts by separating metalwork and building (grouped together under *armatura* in the *Didascalicon*). The other distinction is his substitution of *theatrica* for *ars magica* (divination and astrology) – an interest which Westra suggests is reflected in a later poem by Bernard Silvestris, the *Mathematicus*, or *Astrologer*.²¹ The numbering of eight arts does not appear to have serious conceptual motivation: Bernard seems simply to be less concerned with creating a symmetry between the liberal and mechanical, typical of Hugh's love of order. He sticks to Hugh's broader emphasis on mechanics' curative origin and function, born out of 'necessity'. Fabric making and architecture keep man warm and sheltered; armament or metalwork provide him with defence in battle; commerce, hunting and agriculture allow him to feed and support himself financially; medicine lets him tackle natural illness; the magical arts allow him to foresee or conjecture about the future.

Again, in keeping with Hugh, Bernard suggested a philosophical division or scheme, on the basis of the marriage structure, in which mechanics is one of four major categories. This division was given form in a stemma-type diagram in the unique manuscript of the text, Cambridge University Library's Mm.I.18 (figure 9), thought to date from between 1200 and 1220. The scribe of Mm.I.18 may well have been copying from a lost twelfth-century diagram by Bernard's own scribe (and thus conceived by Bernard himself).

The diagram shows *Scientia* as a genus divided into four categories, or species: *sapientia*, *eloquentia*, *poesis*, and *mecanica*. The first three of these (*sapientia*, *eloquentia* and *poesis*) are shown directly beneath *Scientia*, with *mecanica* set apart and to the right. This division, while it echoes Hugh's in being fourfold, contrasts with it in terms of its contents (Hugh's categories having been *theorica*, *practica*, *logica*, and *mechanica*).²² Bernard prioritises the Ciceronian concepts and allegorical figures of wisdom and eloquence, *sapientia* and *eloquentia*, important to Hugh in less explicit ways (unsurprisingly, given the setting of this division within a commentary on the marriage).²³ Also unsurprising given Bernard's subject of the *De nuptiis* is the privileged

²¹ Westra says this particular substitution supports the attribution to Bernard: it is, he says, 'indicative of a preoccupation with magic, divination and astrology on the part of the author'. Westra, 'Introduction' to *The Commentary*, p. 14.

²² For Hugh's division see above, p. 21.

²³ He puts the trivium under *eloquentia* and the quadrivium (via *theorica*) under *sapientia*. Note the arts of the trivium, belonging to eloquence, are made conspicuous by being set in individual boxes, as though they have some privileged relationship to *Scientia* (also outlined) – a possible hint at the essentially 'trivial' or 'eloquential' nature of philosophy. *Sapientia* also comprises *theorica* and *practica* – which were independent in Hugh's scheme. *Theorica*

position he gives to poetry, *poesis*. As we saw earlier, for Hugh, the ‘songs of the poets’, were tangential and extra-philosophical. For Bernard, whose very effort to define and divide *Scientia* is born out of his reading of the *poem* – or prosimetrum – of the *De nuptiis*, poetry is by contrast of great assistance and even indispensable to the philosophical project. Following William of Conches, Bernard considered poetic or mythological discourse (such as the *De nuptiis*) capable of presenting truths under a ‘covering’, the *integumentum* – a term we return to below.²⁴ The ‘integumental’ manner in which poetry could be said to ‘do’ philosophy or to participate in philosophy perhaps lies behind its inclusion here. On this point it is perhaps worth noting that *poesis* is given no subdivisions of its own in the scheme (as are *sapientia*, *eloquentia*, and *mecania*). While it would be imprudent to see such features as signs of larger, hidden meanings, we could note that this anomaly (*poesis*’ lack of subcategories) would be in keeping with an appreciation of poetry in fact *less* as a ‘category’, and more as a *modus agendi*, a ‘way of doing’ philosophy.

To the right of *poesis* and stemming from the top right-hand corner of *Scientia*’s text-box is *mecania*, in turn divided into the eight arts defined above. The placement of this ‘fourth’ category is striking. First, its distance from the main tree might be seen as indicative of its ‘lower’ status, or rather its tangential status, with respect to the arts of the mind (grouped under *sapientia*, and so on) which spread out directly beneath *Scientia*. At the same time, mechanics occupies considerably more space on the page than its companion categories. Precisely because of its separateness from the main grouping, mechanics is, one might argue, the most conspicuous of *Scientia*’s subcategories in the diagram. Visually speaking, as it is set apart from the main stemma, *mecania* also provides a parallel to it, and the divisions of *sapientia*, *eloquentia* and *poesis* taken collectively. As with the position of *poesis*, it is not my intention to build a case for the wider or metaphorical significance of *mecania* in Bernard’s thought on the basis of its formal positioning or attributes. These traits, which are probably also outcomes of scribal convenience and pragmatism, cannot add up to any determinate significance for mechanics – in the diagram or, by extension, the text. The diagram is, after all, part of an attempt to translate the allegory *into* a taxonomy, to sort out the encyclopaedic implications of Martianus’ myth of intellectual development.

contains *theologia*, *phisica*, and *mathesis* – the last of which contains the arts of the quadrivium; and *practica* contains *solitaria*, *privata*, and *communis* (i.e. ethics). It is beyond the scope and need of this study to provide a detailed analysis of this division, for which one should see Hicks, ‘Martianus Capella’, p. 320.

²⁴ At pp. 64–65.

But it is also conceived within a commentary intended, more broadly, to show what Martianus' story can tell us about the philosopher's psychology (for example, how Mercury's descent to the earth is also his sensory and corporeal education). In this light, it is interesting to note, I think, that mechanics is not exactly 'relegated' in the diagram. While technically it comes 'fourth' in the order of philosophy, it does not look (at least to me) like the 'inferiormost' of philosophy's parts in the stemma. Whether the scribe of Mm.I.18 was copying an original drawing known to (even designed by) Bernard, or interpreting this order diagrammatically for the first time, he positioned *mecania* in a way that invites the reader to consider it in a more complex or nuanced relation to *Scientia* than is available from a written list of the categories. *Mecania*'s placement to the right of the main division could be seen as an effort to accommodate this category's status as 'fourth' in the philosophical scheme, *and* – we might venture – as a distinctive 'kind' of knowledge, sensory or bodily knowledge, that has to be considered on its own terms. To follow that visual lead further we might say the stemma for mechanics, as it parallels that of *Scientia*, also holds up a mirror to it. Mechanics could be said to appear, in this arrangement, as an alternative, even *complementary* way of knowing to the kind of abstract or cerebral knowing which takes place in (or through) *sapientia*, *eloquentia* and *poesis* arrayed to its left.

Commentary on the *Aeneid*

To explore Bernard's attitude to the mechanical arts further we can turn to his commentary on Virgil's *Aeneid*, again written sometime between 1130 and 1150.²⁵ As Jan Ziolkowski has remarked, 'to call Virgil canonical [in the medieval schools] would be an understatement'.²⁶ His *Aeneid* was construed by students of the Middle Ages 'as the script for how a man ... should lead life'.²⁷ The most important books for this were the first six, which tell the story of Aeneas' wanderings from Troy to Italy (before the war in Italy, in books seven to twelve). The commentary attributed to Bernard is on these first six books only, which Bernard interprets as

²⁵ See above, p. 57, n. 9. The commentary's modern English translators suggest it may have been compiled from lecture notes, Bernard occasionally referring to time limitations and the length of the syllabus. See the 'Introduction' to the *Commentary on the First Six Books of Virgil's Aeneid by Bernardus Silvestris*, trans. by Earl G. Schreiber and Thomas E. Maresca (London 1974), p. xx.

²⁶ Jan Ziolkowski, 'Virgil', in *The Oxford History of Classical Reception in English Literature, Volume I: 800–1558*, ed. by Rita Copeland (Oxford 2016), pp. 165–186, at 166.

²⁷ *Ibid.*, p. 176. This meaning was established by an influential sixth-century commentary on the text by Fulgentius (also the first commentator on Martianus Capella). See Ziolkowski's essay (this and previous note); and Schreiber and Maresca's introduction to their translation of Bernard's *Commentary on the First Six Books*, pp. xiv–xviii.

an image for the pilgrimage of the soul. Indeed, Wetherbee says that ‘as Bernardus’ analysis develops, the *Aeneid* comes to sound strangely like the *De nuptiis* ... Virgil’s Aeneas, like Martianus’ Mercury, undergoes a definite psychological education in the course of his wanderings.’²⁸ In his preface, Bernard says, Virgil’s ‘procedure [*modus agendi*] is to describe allegorically by means of an integument what the human spirit does and endures while temporarily placed in the human body’.²⁹

The theme of descent to ‘sense’ or even ‘sense making’ is again central. In *De nuptiis*, Bernard had discerned this ‘meaning’ above all in Mercury’s search for Apollo, and flight down to earth, which preceded (and enabled) his union with wisdom. In his reading of the *Aeneid*, Bernard discerned the same psychological meaning in Aeneas’ descent to the underworld, *descensus ad inferos*.³⁰ Virgil, Bernard says, uses this motif to depict man’s descent to consider earthly things so that it might then turn to *invisibilia*.³¹ ‘[Aeneas] is admonished thus: to descend to earthly things through *thought*’ – ‘ad mundana per cognitionem descendat’.³² Aeneas is ‘the wise man who descends to creatures through contemplation in order to know better the creator.’³³

There is – of course – no precedent for the mechanical arts in the *Aeneid*, as there was in *De nuptiis* (via the commentary of Eriugena). But Bernard, who sees the system of knowledge presented in *De nuptiis* as universally applicable, brings them into his discussion of Book Six, as one of the sections of knowledge Aeneas encounters (and he suggests, masters) on his descent. He introduces the category: ‘Mechanics is the knowledge of human works connected with corporeal needs’.³⁴ Oddly, this time he follows Hugh’s classification exactly in his identification of its constituents, writing ‘there are seven parts to it: weaving, armament, navigation, hunting,

²⁸ Wetherbee, *Platonism and Poetry*, p. 105. Again, Bernard is drawing on William of Conches’ interpretation of Orpheus in his gloss on Boethius: above, p. 57, n. 15.

²⁹ ‘Modus agenda talis est: in integumento describit quid agat vel quid paciatur humanus spiritus in humano corpore temporaliter positus.’ *Commentum Super Sex Libros Eneidos Virgilii, Praefatio*, ed. by Julian Ward Jones and Elizabeth Frances Jones (London 1977), p. 3; trans. by Schreiber and Maresca, *Commentary on the First Six Books*, p. 5. Latin edition hereafter cited as ‘Jones and Jones’.

³⁰ This term is used at 6.108–109, Jones and Jones, pp. 51–52; Schreiber and Maresca, pp. 51–52.

³¹ Wetherbee, *Platonism and Poetry*, p. 107.

³² ‘In qua ille monetur ut ad mundana per cognitionem descendat’. *Commentum Super Sex Libros* 5.723, Jones and Jones, p. 27; Schreiber and Maresca, p. 29.

³³ As paraphrased by Schreiber and Maresca in the introduction to their translation of the *Commentary on the First Six Books*, p. xxvii. This is based on Bernard’s remark, at 6.108: that ‘we have taught before in the fifth book why the descent to the underworld must be made ... because knowledge of creatures leads to knowledge of the Creator.’ (‘Predocimus in quinto volumine quod ad inferos descensus sit faciendus ... quia creaturae agnitio ad contemplationem adducit creatoris.’) Jones and Jones, pp. 51–52; Schreiber and Maresca, p. 52.

³⁴ ‘Mechania vero est scientia humanorum operum corporeis necessitatibus obsequentium.’ Ibid. 6.2, Jones and Jones, p. 34; Schreiber and Maresca, p. 34.

agriculture, theatrics and medicine’.³⁵ He also follows Hugh in declaring: ‘they are called *mecanice*, that is, *adulterine*, “forged”’.³⁶ The arts are then invoked in a similar place to their invocation in Bernard’s commentary on *De nuptiis*, and arguably to the same effect – as a ‘gloss’ on the protagonist’s earthly wanderings and ascent through sense. As with Mercury, they highlight Aeneas’ need to *internally imitate* the material and corporeal world in his pursuit of divine knowledge. They function as an image, again, for the soul’s (poetic, or poietic) ‘making sense’ of its earthly existence.

Thus, in his two commentaries – on *De nuptiis* and the *Aeneid* – Bernard displays an awareness of and an attachment to the *artes mechanicae* as set out in the *Didascalicon* some years earlier. He is faithful to Hugh’s classification, which he imitates closely in both glosses (with some modification in the first).³⁷ By virtue of the very nature of these writings, however, Bernard stays truer to the allegorical significance of the mechanical arts as the ‘handmaids’ of eloquence. This ideal intellectual union is not a passing comment, as it was in Hugh, but the explicit context for their discussion. In both his glosses, based on Eriugena’s, Bernard can be seen to think about mechanics as a category or species of *Scientia* (alongside other categories) and – more explicitly than Hugh – as a stage on the soul’s pilgrimage from *mundana* to *extramundana*.

At the same time, mechanics could be seen as an image for the work of the poet, for the ‘making’ of the myth on which the commentary is built. This reflexive connotation will be important for the *Cosmographia*. In the diagram accompanying the gloss on *De nuptiis*, Bernard included *poesis* as a gesture (I argued) to the mythic structure of the text itself. For him, *poesis* – as practised by Martianus and Virgil – is the only way to truth, the ideal vehicle or *modus agendi* of philosophy. In the preface to the commentary on the *Aeneid*, he calls Virgil a ‘poet and a philosopher’.³⁸ Virgil ‘taught the truth of philosophy, and he did not neglect the poetic fiction.’³⁹ Virgil knew poetic fiction was the best way to access highest truths; his very myth was an *exercise in ‘making sense’* of the world. As quoted above: ‘His procedure is *to describe allegorically by*

³⁵ ‘Huius sunt septem partes: lanificium, armatura, navigium, venatio, agricultura, theatrica, medicina.’ Ibid.

³⁶ ‘dicuntur mecanice, id est adulterine’. Ibid.; Schreiber and Maresca, p. 35.

³⁷ i.e., the identification of eight, not seven arts: above, p. 58.

³⁸ ‘... in our work we treat Virgil as both a poet and as philosopher ...’. (‘... in hoc opera et poeta philosophus perhibetur esse Virgilius ...’). *Commentum Super Sex Libros, Praefatio*, Jones and Jones, p. 1; Schreiber and Maresca, p. 3.

³⁹ ‘... et veritatem philosophiae docuit et fimentum poeticum non pretermisit.’ Ibid. Bernard attributes this quotation to Macrobius, though it does not correspond exactly to any of Macrobius’ surviving writings. See the note provided by Schreiber and Maresca, p. 109 (n. 1).

means of an integument what the human spirit does and endures while temporarily placed in the human body'.⁴⁰

This term *integumentum* is taken from a natural lexicon: its original meaning is the 'covering' or protective outer layer of a plant or animal. Bernard, following William of Conches, adopted it to describe how literary fictions reveal truths.⁴¹ This particular term is revealing of the model of *poiesis* – 'world-making'. It tells us how the ideal text is conceived as a reworking of natural appearances, a crafted *microcosmus*, which makes the world more intelligible *by transforming it*. Thus, it also recalls the Greek term for literary embellishment or ornamentation, *kosmos*. *Kosmos* has been discussed by Angus Fletcher in his work *Allegory*, who notes 'this buried term [is] familiar to us in somewhat disguised and certainly debased form in its Latin derivatives, *ornatus* and *decoratio*'.⁴² These Latin cognates fail to convey the idea (conveyed by *kosmos*) that the poet or orator 'seeks to organize nature into a ... system'.⁴³ Concurrently, *kosmos* allows us to see *ornatus* as a concept that (at least initially) covered both 'adornment', and 'arrangement', or rearrangement. We would tend to think of these as separate projects: one to do with the 'outside' of the work; the other to do with the 'inside'. The term *kosmos* referred to the text's organisation, and – or as – its covering. It reveals how a text's system inhered in its surface: adjusting the appearance of one's *materia* was not a finishing touch; it was what made the *materia* intelligible. The Chartrians' use of the word 'integument' for the allegorical *ornatus* could be seen as signalling a desire to restore this ancient, poietic vocabulary and with it a whole conception of composition.

⁴⁰ Above, p. 62, n. 29.

⁴¹ The notion of integument has a considerable literature and is often a byword for the 'scientific and grammatical humanism' of Chartres (so-called by Jeaneau, cited in the Introduction above, p. 10, n. 47). See discussions in Peter Dronke, *Fabula: Explorations into the Uses of Myth in Medieval Platonism* (Leiden 1974), pp. 13–78, esp. 25–32; Gregory, 'The Platonic Inheritance'; Édouard Jeaneau, 'L'usage de la notion d'*integumentum* à travers les gloses de Guillaume de Conches', *Archives d'Histoire Doctrinale Et Littéraire du Moyen Âge* 24 (1957), pp. 35–100; and J. A. Dane, 'Integumentum as Interpretation: a note on William of Conches' commentary on Macrobius', *Classical Folia* 32 (1978), pp. 201–215.

⁴² Angus Fletcher, *Allegory: The Theory of a Symbolic Mode* (Princeton 2012; first publ. Ithaca, NY 1964), pp. 108–109.

⁴³ Ibid., p. 121. Without referring to its antecedent *kosmos*, Umberto Eco has noted that the term *ornatus* seemed to refer, within medieval 'cosmological theory', to 'an individuating structure in things' – in *Art and Beauty in the Middle Ages*, trans. by Hugh Bredin (New Haven, 1986) p. 34. (Originally published as a single chapter in a four-volume handbook to medieval aesthetics, 'Sviluppo dell'estetica medievale', in *Momenti e problemi di storia dell'estetica*, 4 vols, 1: pp. 115–230, Milan 1959). For the meaning of *kosmos* in antiquity see Grand-Clément, 'Poikilia', pp. 409–410; and Sandywell, *The Beginnings of European Theorizing*, p. 28.

Indeed, as several modern commentators have noted, Bernard would appear to see the process of composing under an *integumentum* (which he attributes to Virgil) as in some way modelling or exemplifying the structure and process of learning suggested by narrative.⁴⁴ This correspondence between Virgil's poetic procedure and his philosophical lessons, has been inferred for example by Earl G. Schreiber and Thomas E. Maresca – who write in their introduction to the English translation that the *Aeneid* is, for Bernard, 'a poem about the acquisition of wisdom which re-creates in itself the form of the process it describes.'⁴⁵ They go on that 'the process *depicted* in the epic poem and the process *enacted* by the narrative itself is centroverson: the raising to consciousness of what had previously been latent, unknown, or unappreciated.'⁴⁶ In other words (according to the translators), Bernard seems to see the *Aeneid*, particularly in his emphasis on poetry in the preface, as being both 'about' the soul's discovery of wisdom, through the body, nature, and sense perception – and as *demonstrative* and encouraging of that process of discovery, or 'sense-making', by virtue of its presentation of truths under the cover of fiction.⁴⁷ On this line of interpretation, we might go so far as to suggest that as Bernard inserts the mechanical arts *within* the story of Aeneas, as a stage in the protagonists' coming to terms with nature, he might also think of them as metaphors for the kind of kosmic 'craft' involved in poetic composition and interpretation, undertaken by Virgil and *post facto* by the reader.

The extent of Bernard's thinking about the reflexivity of Virgil's text – about where and how its poetic 'making' mirrors the process of learning it seems to espouse – has to remain a subject of scholarly conjecture. While its basic tenets are implied throughout the commentary (and particularly in the emphasis on the interaction of poetry and philosophy in the preface), at no

⁴⁴ This has been noted by the commentary's modern translators, Earl G. Schreiber and Thomas E. Maresca (see subsequent two notes, 45 and 46). That poetry does not just 'represent the pleasant voice of eloquence' but has 'a special moralizing quality of its own' for Bernard, in both his commentaries and the *Cosmographia*, has also been discussed by Willemien Otten, *From Paradise to Paradigm: A Study of Twelfth-Century Humanism* (Leiden 2004), p. 238. See also the comments of James Simpson on Alan of Lille and John Gower's use of poetic form, cited below, note 47.

⁴⁵ Schreiber and Maresca, 'Introduction' to *Commentary on the First Six Books*, pp. xxviii.

⁴⁶ *Ibid.*, p. xxxi. My emphases.

⁴⁷ One could refer at this point to the insightful comments of James Simpson on the moral *action* of poetic form in the works of Alan of Lille and John Gower, both successors to Bernard Silvestris. Simpson argues that form and content work in harmony in these poems: 'because the poem aims at human fulfilment through an educative process, so too is the poem's shape controlled by that end.' The poem's pedagogical ends are written into its fictional shape, which as it is read, 'informs' the soul of the listener or reader. *Sciences and the Self*, pp. 6–7 (quotation is at p. 7). Simpson is not discussing Bernard Silvestris at this point, though he addresses the influence of the *Aeneid* commentary on Alan's poetics at pp. 58–59.

point does Bernard dissect, in analytic terms, how the overlap between form and content works (hence the effort by more recent scholars to articulate it).

However, a reflexive allegorical system had been identified more explicitly by Bernard's predecessors in commentaries on the *Timaeus*.⁴⁸ It was ultimately this 'menacingly' multi-layered cosmogony by Plato, as discussed by cathedral schoolmen in the first half of the twelfth century, that influenced Bernard's 'integumental' readings of Martianus and Virgil.⁴⁹ As we have seen, Plato prefaced his myth of creation (through the mouthpiece of Timaeus) as a *mediocris explanatio*, an 'ordinary explanation': the best that could be imagined about God by (limited) human minds. And he gestured, within his 'explanation' of God, to the very act of *composing* that explanation. This was discerned by Bernard's contemporary William of Conches, who noted, in his commentary on the *Timeaus* (thought to date from the 1140s), that Plato's story of cosmic creation was also a story about the formation of the soul through philosophy and poetry. He called the story 'encyclopaedic'.⁵⁰ Its fictional structure was indicative of the poetic and imitative structure of *thought*. The craft ('poiesis') of the divine demiurge becomes an image for the poet-craft of the writer, *coming to terms with* creation and the Creator in his own, limited way.

As I have argued, it was arguably the centrality of craft in Plato's text, to describe our conjectural and artificial 'sense-making', which inspired the inclusion of the *artes mechanicae* as the tools of eloquence in Eriugena's *De nuptiis* commentary. Hugh of Saint-Victor recognised this heritage in his *Didascalicon*, in his evocations of the mechanical artist as an *exemplum* for the 'conjoint' work of the 'trivial' imagination. In Bernard's mythological commentaries, this take on mechanical art – as illustrative of mental and verbal *factio*, 'fashioning' – is perhaps more keenly

⁴⁸ In his gloss on the *Timaeus*, William of Conches wrote that Plato himself had spoken in *integumenta*: i.e. that what he described (in this instance, the demiurge's creation of the cosmos) actually told of something else (the author's creation of the poem). 'Si quis tamen non verba tantum sed sensum Platonis cognoscat, non tantum non inueniet haeresim sed profundissimam philosophiam integumentis verborum tectam.' ('If, however, one were to recognise not only the words but the sense of Plato, one would find not only heresy, but profound truth covered by the integument of words'). William of Conches, *Glosae super Platonem* 119.8–11, ed. by Édouard Jeuneau (Turnhout 2006), pp. 213–214. My translation. For a commentary on William's gloss and identification of Plato's 'integument', see Willemien Otten, 'Plato and the Fabulous Cosmogony of William of Conches' in *The Winged Chariot: Collected Essays on Plato and Platonism in Honour of L.M. de Rijk*, ed. by Maria Kardaun and Joke Spruyt (Leiden 2000), pp. 185–204, at 196–198.

⁴⁹ Grabowski, 'Plato: *The Timaeus*' (above, p. 11, n. 56). To clarify my terminology: the *Timaeus*, and the *Cosmographia*, are technically 'cosmogonies' – i.e. models of the creation of the cosmos. 'Cosmology' refers to the study of the universe more generally. Thus, as individuals, Plato and the Chartrians could be called 'cosmologists', but their works are more specifically cosmogonies. This distinction is explained by Fletcher, *Allegory*, p. 155.

⁵⁰ Gregory, 'The Platonic Inheritance', p. 57.

felt. The mechanical arts, now addressed precisely as components within an allegorical story and scheme, seem at some level to be representative of the descent to earthly contemplation undertaken by Mercury and Aeneas. At the same time, if we accept that Bernard was interested in how the poetic procedure of the author redoubles the philosophical lessons ‘within’ the text, we might even say that mechanical art (standing in for our earthly descent) is implicated as a metaphor for the making of the text itself, for the integumental ‘craft’ of the author. But these are only inferences drawn from Bernard’s somewhat brief comments in the commentaries. It was ultimately in Bernard’s *Cosmographia*, directly modelled on the demonstrative ‘encyclopaedia’ of the *Timaeus*, that the identity of *mechanica* and *poiesis*, the view of ‘mechanical art’ as a way of expressing poetic ‘sense making’, was restored to its ancient fullness.

II. The *Cosmographia*

The *Cosmographia* is divided into two books: the *Megacosmus* and *Microcosmus*. As their titles suggest, the first of these describes the formation of the universe at large, and the second, the formation of man – in soul and body – who will inhabit, and complete, the megacosmos.

What has not yet been mentioned, but which must preface our analysis (and any reading of Bernard’s poem) is the etymology of its title: a compound of *cosmos* + *graphia*, ‘writing’. This initiates the attentive reader into Bernard’s Platonic conceit: that his text is a *text*, and the cosmos to be described is just that: a cosmos *described*. This prefatory act of ‘self-criticism’ is in direct imitation of Timaeus’ self-critical claim, that his account of the divine craftsman is an *eikos mythos*, or *mediocris explanatio* – a product and a reflection of the ‘limited’ means of human reasoning and imagining about the world.⁵¹

As suggested by his title, Bernard developed this ultimate reference to human ‘making’ with a new confidence and playfulness. His new-fangled demiurges have an overtly ‘encyclopaedic’ function. They are intended as personifications of his own ‘making sense’ of matter and the divine, the ‘mechanical psychology of knowing’ proper to the liberal arts.

Megacosmus

⁵¹ Above, Introduction, p. 11, n. 55.

The *Megacosmus* opens with the universe in a state of chaos. It is ‘unwritten’, Bernard suggests, requiring the order of the mind, and pen. This is explained by *Natura*, who appeals to her superior, *Noys* (‘the divine mind’ or ‘divine idea’), over the state of primordial matter, which Bernard names *Silva*:

Oh Noys, image of unfailing life, firstborn of God, yourself God, essential truth ...
Silva, an unyielding, formless chaos [*informe chaos*], a hostile coalescence, the
motley aspect of substance, a mass discordant with itself, longs [*optat*] in her
turbulence for a tempering power; in her crudity [*rudis*] for form [*formam*]; in her
rankness [*hispida*] for cultivation [*cultum*]; yearning to emerge from her ancient
confusion, she demands formative number and bonds of harmony.⁵²

As *Silva* longs (*optat*) for form, Bernard’s description of her seems to crave representation. While no surviving copies of the *Cosmographia* include an ‘iconography’ to accompany the narrative, an illumination from a work by Honorius Augustodunensis (c. 1080–1154), the *Clavis Physicae*, includes a drawing of cosmic chaos that – with its muddled eyes and mouths – might as well be a drawing of Bernard’s personification (figure 10). It helps us to visualise Bernard’s most complex and allusive character, and the source for his posthumous name ‘Silvestris’.

The term *silva* translates literally as ‘forest’ or ‘wood’. So far, we have seen it used to describe the ‘sylvan shelters’ or wooded places, *tectis silvestribus* of Cicero’s *De Inventione* – where men were scattered before being ‘civilized’ by eloquence. In his more practical passages, Cicero had used it for the author’s written ‘draft’. In *De Oratore*, for example, he advised that, ‘One has to begin by accumulating a supply of matter [*silva*] ... but that matter has to receive shape from the general texture and style of the speech, and to be embellished by the diction and given variety by reflexions.’⁵³ Cicero’s use of *silva* – again taken from a natural lexicon – betrays once again his essentially poietic view of rhetorical composition, as an organisation of sense materials. It makes

⁵² “‘Vitae viventis imago, prima, Noys, Deus, orta Deo, substantia veri ...’ Silva rigens, informe chaos, concretio pugnax, discolor usiae vultus, sibi dissona massa, turbida temperiem, formam rudis, hispida cultum optat, et a veteri cupiens exire tumultu artifices numeros et musica vincla requirit.’ Bernard Silvestris, *Cosmographia: Megacosmus* 1.18–23, ed. and trans. by Winthrop Wetherbee, *Bernardus Silvestris: Poetic Works* (Cambridge, MA 2015), pp. 8–9.

⁵³ ‘Quare, ut ante dixi, primum silva rerum comparanda est ... haec formanda filo ipso et genere orationis, illuminanda verbis, varianda sentiis.’ *De Oratore* 3.103, ed. and trans. by E.W. Sutton and H. Rackham, LCL 349 (Cambridge, MA 1942), pp. 82–83.

us alert to the ‘kosmic’ undertones of this (otherwise rather conventional) passage on verbal *decorum* or *ornatus*.⁵⁴

Bernard is drawing more directly, however, on Calcidius’ own use of *silva* to translate Plato’s Greek term for primordial matter, *hylē*.⁵⁵ Calcidius was probably influenced by Cicero’s use of the term: his choice shows he appreciated the reflexive system of Plato’s dialogue. Through *silva* he is able to suggest cosmic matter is ‘also’ the raw material or ‘draft’ of the author, and therefore that the demiurge is ‘also’ the poet-speaker, Timaeus. Bernard takes this further in his *Cosmographia*. He relishes the ambiguity of *silva*, using it to unlock and to test the (ancient) synonymy of rhetoric and cosmology. He forces us, almost teasingly, to pursue two readings simultaneously: the physical work of *Natura* and *Noys* on *Silva* relentlessly implicates the work of the author, his effort to rationalise the cosmos verbally. Bernard describes their cosmic craft using language we would consider proper to a manual on rhetoric and the arts. For example, *Natura* concludes her request to *Noys* by asking her to:

Apply your hand, divide the mass, show forth its components and set them in their stations; they will appear more pleasing when thus disposed. Quicken what moves at random, impose shape [*ascribe figuram*] and bestow splendor: let the work [*opus*] declare the author [*auctor*] who has made it [*fecerit*]!⁵⁶

The *auctor* in this final line refers, ‘within’ the myth, to *Noys*, or God. But at another level Bernard is clearly pointing towards himself, the student of rhetoric. As Linda Lomperis suggests, ‘we cannot be sure whether Bernard’s writing serves to establish the “reality” of the divinely written cosmic order or whether it simply sets forth a kind of rhetorical parody of that order.’⁵⁷

⁵⁴ Following Cicero, Quintilian used *silva* for the writer’s ‘draft’ in his *Institutio Oratoria*. Writers ‘... make a draft of the whole subject as rapidly as possible, and write impromptu, following the heat and impulse of the moment. They call this draft their “raw material” [*hanc silvam vocant*]. They then revise their effusions and give them rhythmical structure. The words and the rhythms are thus corrected, but the original triviality of the hastily accumulated material is still there. The better practice will be to exercise care from the start, and shape the work from the first stages in such a way that it needs only to be chiselled into shape, not begun again from scratch’. (‘Diversum est huic eorum vitium qui primo decurrere per materiam stilo quam velocissimo volunt, et sequentes calorem atque impetum ex tempore scribunt: hanc silvam vocant. Repetunt deinde et componunt quae effuderant: sed verba emendantur et numeri, manet in rebus temere congestis quae fuit levitas. Protinus ergo adhibere curam rectius erit, atque ab initio sic opus ducere ut caelandum, non ex integro fabricandum sit.’) Quintilian, *Institutio Oratoria* 10.3.17–18, ed. and trans. by Donald A. Russell, LCL 124 (Cambridge, MA 2001), pp. 344–345.

⁵⁵ Calcidius, *Commentary* 13; Magee, pp. 544–545.

⁵⁶ ‘Adde manum, rescinde globum, partesque resigna et distingue locis; melius distincta placebunt. Pigra move, moderare vagis, ascribe figuram, adde iubar: fateatur opus quis fecerit auctor!’ *Megacosmus* 1.60–65; Wetherbee, pp. 11–13.

⁵⁷ Lomperis, ‘From God’s Book’, p. 56.

Once *Noys* agrees to help *Natura*, she reflects on her task in a ‘voice’ which seems also to belong to Bernard – to express his own feelings about the labour of poetic (poietic) ornamentation:

I recognise that this rough perversity cannot be made to disappear, or be completely transformed; for it is too abundant, and, being sustained by the native properties of the matter in which it has established itself, does not readily give way. However, so that it does not impede my work or resist my ordering, I will refine away the greater part of the evil and grossness of *Silva*.⁵⁸

It is at points such as this, when Bernard’s narration is overtly ‘an aesthetic counterpart to the coherent ordering he describes’, that, as Wetherbee puts it, he ‘seems to strain the resources of language.’⁵⁹ The refinement of *Silva* in the *Megacosmus* (the division of the mass, the disposition of its parts, the imposition of shape) refers ultimately to Bernard’s poetic and philosophical labour, of bringing the universe into the ‘likeness’, or ‘integument’ of the *Cosmographia* itself (the *opus* in the passage). *Noys* is, by extension, a figment of the imagination. Her cultivation of *Silva* signifies the very *act* of sensation and imagination, the inner reassembly of sense materials, that gives rise to her. Following the reflexive logic of the *Timaeus*, her craft is a projection of the limited or ‘ordinary craft’ of human conjecture *about* the world’s origins.

In the context of twelfth-century encyclopaedism, Bernard blurs the boundaries of mechanical and liberal or theoretical art. The *artes mechanicae* may not be present by name, but they have an implied dramatic and exemplary expedience in this narrative – which is in keeping with the implications of the *Didascalicon*, and Bernard’s view of *mechanica* in the commentaries. *Noys*’ manual division and disposition of *Silva* (restated throughout the *Megacosmus*) strongly echoes Hugh’s characterisation of the mechanical artist, putting together things disjoined, and disjoining those put together. We have seen how this had poietic overtones in the *Didascalicon*, in tune with Hugh’s own profound appreciation of the lessons of the *Timaeus* (and *De nuptiis*) – and how Bernard himself registered the relationship between *mechanica* and the trivial arts ‘making sense’ of nature in his commentaries. In the *Megacosmus*, this implicit relationship becomes explicit. The trials and tribulations of mechanical artistry, attributed to *Natura* and *Noys*, are manifestly illustrations of the philosophico-poetic process, of the soul trying to fashion a reasonable account of the cosmos within itself. At the same time, the very pursuit of wisdom –

⁵⁸ ‘Silvestris, video, obsolescere demutarique malignitas non poterit ad perfectum; abundantior enim, et, nativis erecta potentiis, quibus insedit sedibus, facile non recedit. Verum ego, quo non operi, quo non meis officiat disciplinis, malum Silvae pro parte plurima Silvaeque grossitiem elimabo.’ *Megacosmus* 2.2; Wetherbee, pp. 14–15.

⁵⁹ Wetherbee, ‘Philosophy, Cosmology’, p. 45.

the soteriological mission of discovering the divine likeness itself – is framed as a mechanical enterprise. Bernard’s unique effort to show us the ‘psychology of knowing’, as opposed to an outward ‘structure of knowledge’ means there can be no strict division between ‘taking thought for necessity’ and the ascent to *extramundana*. In this twelfth-century *Timaeus*, the one necessarily becomes the other. Ascent is a *descent* to sense and experience, and the liberation of the soul lies in its craft, the perfection of a mechanical psychology.

Microcosmus

While, as I have shown, this claim to the importance of the mechanical arts in the *Cosmographia* is essentially new, it has a single (if underdeveloped) precedent in Brian Stock’s *Myth and Science in the Twelfth Century*.⁶⁰ Stock raises the topic of the *artes mechanicae* in his analysis of the second part of the *Cosmographia*, entitled the *Microcosmus*, which narrates the formation of man.

The *Megacosmus* concludes with *Noys*’ celebration of her ‘art’. The beginning of the *Microcosmus* heralds the arrival of *Providentia*, who declares the final wish of the Godhead: ‘since it befits the careful craftsman to make the final portions of his work worthy of consummation, I have decided to complete the success and dignity of my creation with Man.’⁶¹ *Natura* is once again the supervisor of events, who has to seek out two artisans: *Physis* and *Urania*, who will craft man in body and soul respectively. Their efforts are more or less representative of man’s intellectual development.

Urania is the first to be sought. She is named after the eighth Muse of Hesiod’s *Theogony*, *ourania*, ‘heavenly one’. Bernard calls her ‘queen of the stars’, or ‘starry queen’, *regina siderea*.⁶² After a long journey *itinieris longissimi*, *Natura* finds her gazing attentively at the heavens.⁶³ She already knows, by foresight, God’s will and *Natura*’s request – and forestalls *Natura*’s attempt to speak with her own assessment of what needs to be done:

⁶⁰ See above, p. 55 and the Introduction, p. 13.

⁶¹ ‘Sed quoniam par est diligentem opificem claudentes partes operis digna consummatione finire, visum est mihi in Homine fortunam honoremque operis terminare.’ *Microcosmus* 3.1; Wetherbee, pp. 84–85.

⁶² Ibid. 3.5; pp. 86–87.

⁶³ Ibid. 3.6; pp. 88–89 and 3.11; pp. 92–93.

Man, of earthly nature, is to be made [*fabricabitur*] a sojourner on earth [*in terris...hospes*], and the descent thither [*descensus eo*] is not easy for me. The dank impurity that surrounds the base earth will quickly mar my brilliance. But since this creature owes his form to the archetypal patterns, it is useless to plead the journey as an excuse. In accordance with the sacred purpose of the divine and most high Mind I will execute the work of the office assigned me. In the following form and manner of this noble model I shall produce nothing random or worthless. The human soul [*mens humana*] must be guided by me through all the regions of heaven, that she may learn wisdom [*ut sit prudentior*]: the laws of the Fates and inexorable Destiny, and the shiftings of unstable Fortune; what matters are open [*libera*] to our judgement, what is determined by necessity [*necesse*], and what is subject to uncertain accident. By the practice of reflection [*more recordantis*] she will recall as much as she can of that which she discerns, being not wholly without memory.⁶⁴

Urania thus says she will create a ‘memory’ of wisdom in man’s soul (*mens humana*). Man will ultimately be a sojourner on earth (*in terras hospes*). For her, such a descent would be no light matter (*non levis*). But she can instil in him a knowledge of the heavens, of destiny and fortune, that he can then recall in his earthly life, by the practice of reflection, *more recordantis*. Thus *Natura* follows *Urania* on a journey through the ethereal regions, accumulating (it seems) the wise soul of the new man. Once this has been accomplished, she has to make that *descensus* to the earth to recruit the maker of the new man’s body. This is *Physis*, roughly translatable as ‘the study of nature’.⁶⁵ *Natura* finds her seated in the lap of the earth, closely attended by her daughters, *Practica* and *Theorica* (fictional incarnations of Hugh’s encyclopaedic categories in the *Didascalicon*).

While Bernard suggests that the human soul was formed by *Urania*, he also centralises the work of *Physis* and her daughters in a way which suggests he sees the soul as a by-product, almost, of their work on the body.⁶⁶ For Bernard, our intellectual development proceeds *from* the apprehension of earthly things, *to* heavenly things. He is able to suggest this in the figure of *Physis*, whose work almost overwrites *Urania*’s production of the soul. *Physis* and her daughters’ labours could be said to stand for the *more recordantis*, the ‘practice of recollection’ by which

⁶⁴ ‘In terris Homo terrenus fabricabitur hospes, et descensus eo mihi non levis. Umida colluvies, humili contermina terrae, laeserit e facili nostrum iubar. Sed quod ab archetypis ea res decorata figuris, excusare viam minus expedit. Iuxta divinae summaeque sacraria Mentis exsequar iniuncti rem muneris. Principis exempli formam modumque secuta, inducam temere vacuum nihil. Mens humana mihi tractus ducenda per omnes aethereos ut sit prudentior: Parcarum leges et ineluctabile Fatum Fortunaque vices variabilis; quae sit in arbitrio res libera, quidve necesse, quid cadat ambiguus sub casibus. More recordantis quam multa reducet eorum quae cernet, penitus non immemor.’ Ibid. 4.21–39; pp. 94–95.

⁶⁵ For further analysis of this definition see Mark Kauntze’s chapter on ‘The Science of the *Cosmographia*’ in *Authority and Imitation*, pp. 50–89, at 63–66.

⁶⁶ Wetherbee also notes that ‘as the creation of man goes forward, only the work of *Physis* is described’. *Bernardus Silvestris*, p. xxiii.

the wisdom in the soul is recovered. Bernard describes *Physis* daunted by her assignment and her recalcitrant materials – the ‘leftovers’ of *Silva* from the *Megacosmus*:

Physis was appalled at the instability which hindered her project, and cursed this unbridled lawlessness. She took pains and labored mightily to check its fluctuation and contain its flowing away as far as Nature would admit. Besides, she realized that not the elements themselves, but the remains of the elements had been given her to build with, scraps and leavings from the forming of the Universe [*de mundana*] which she had found [*invenisset*] here and there. Thus it was beyond even a skilled craftsman to perform this task or bring it to completion with imperfect materials. Physis applied her ingenuity [*ingenium*] to these stubborn difficulties.⁶⁷

Previous scholars have noted that in these passages *Physis* ‘deploys learning of a new, practical kind’.⁶⁸ But Stock went further in proposing that ‘Physis is predominantly interested in the mechanical arts’.⁶⁹ And that, ‘in a period when the mechanical arts were, by and large, considered “adulterine”, Bernard appears to have a more positive evaluation of their role’.⁷⁰ Yet Stock did not tie this observation back to Bernard’s larger metaphorical agenda – and the ultimate reference of *Physis* to philosophy itself (in both its ‘practical’ and ‘theoretical’ dimensions).

Physis, while she is a ‘mechanical artist’, is also, ostensibly, a figure for the *ingenium* of the author and rhetorician. As the ‘maker’ of man, she restates and amplifies the rhetorical and philosophical allusions of the *Megacosmus* on the narrative level. Her reassembly of *Noys*’ ‘scraps and leavings’ tallies with references in the first half of the *Cosmographia* to the imitative poietic craft of the philosopher, attempting to ‘make sense’ of the divine through myth and integument. Note Bernard’s use of the word *inventio* (*invenisset*) to describe her ‘discovery’ of materials from the universe, *de mundana*. She is the (closest) personification of the author’s ‘recollective’ and ‘excogitative’ philosophical and verbal craft, his effort to shape the world to the mind through language. *Physis* brings to the foreground Bernard’s ‘unusual’ appreciation of the

⁶⁷ ‘Obviam propositis inconstantiam Physis exhorruit, effrenemque licentiam exsecravit. Curat, agit et promovet quantam Natura patitur, lubricantem detineat, coerceat effluentem. Praeterea non elementa, sed elementorum reliquias aedificationi suae traditas recognoscit, quas utique de mundana concreione extremas et superstites invenisset. Non igitur esse in opifice, vel perito, de minus integris corporibus vel opus facere vel absolvere consummatum. Ad tantas tamque importunas difficultates ingenium Physis circumducit argutum.’ *Microcosmus* 13.4; Wetherbee, pp. 158–159. Wetherbee translates *ingenium* as ‘keen understanding’, which I have replaced with the more direct ‘ingenuity’.

⁶⁸ Wetherbee, *Bernardus Silvestris*, p. xxii.

⁶⁹ Stock, *Myth and Science*, p. 197.

⁷⁰ *Ibid.*, p. 225.

mechanical arts – to run with Stock’s observation – as the psychological *modus operandi* of the liberal.

The *Microcosmus* ends with a song of praise for man as a finished product – ‘formed with masterly and prudent skill’.⁷¹ Bernard describes, step by step, the perfect co-ordination of his faculties and limbs achieved by *Physis*, and therefore (under the ‘integument’) by man’s philosophical education. He starts with the interaction of the senses and the mind, effectively the power of imagination, *ingenium*, or ‘judgement of sense perception’ (on which the whole *Cosmographia* is a commentary). He then accounts for the ears and sound, the tongue and taste, the nose and smell: all relationships which evince *ingenium* or ‘sense making’ – the translation, or imitation, of the world in and by the mind.⁷² Thus he prioritises man’s ‘poietic’ faculties. These final pages reassert that the essence of our humanity is the ability (and struggle) to ‘make intelligible’ the *silva* of experience. In his very last lines, Bernard says that ‘in creating man it was necessary [*illa necesse est*] that *Physis* bestow limbs of which the universe [*mundus*] has no need: eyes to keep watch in the head, ears for varying sound, sure feet to bear him, and all-capable hands [*omnificasque manus*].’⁷³

This seems to make a simple enough point: the universe or *mundus* is self-sufficient. Man is not: he needs his senses to ‘get on’ in the world, to see, to hear, to move, and to make use of its resources. At the same time, however, given the reflexive conceit of the *Cosmographia* as a whole, this final passage, which emphasises the attributes of man that allow him to engage with what is outside of himself *by contrast* to the autonomous universe, could be seen to suggest the dependence of the *mundus* on man, and his physical awareness. Man is the central inhabitant of the universe in the narrative, but in the terms of the literary experiment, man is also its creator, its *auctor*. In keeping with his reflexive conceit, pervasive throughout the poem, Bernard can be seen playfully making us question, in these last lines, whether the self-sufficient cosmos is in fact self-sufficient *in* the human senses, ‘as far as’ the eyes, the ears, and the feet and hands ‘show’ us. He reminds us that the cosmos he is speaking about is in fact – or is also – the cosmos put together by his human craft, the *kosmos* of the text.

⁷¹ ‘... cuditur artifici circumspectoque politu ...’ *Microcosmus* 14.1-2; Wetherbee, pp. 168-169.

⁷² *Ibid.* 14.16-108; pp. 168-177.

⁷³ ‘Membra quibus mundus non indigent, illa necesse est *Physis* in humana conditione daret: excubias capitis oculos, modulaminis aures, ductoresque pedes omnificasque manus.’ *Ibid.* 14.179-182; Wetherbee, pp. 180-181.

Indeed, Bernard closes the *Cosmographia* by stressing the necessity of the ‘all-capable’ or ‘all-creative’ hands (*omnificae manus*) – encapsulating the reflexive lesson I have tried to draw out here. On one level, Bernard can be seen to refer to man’s practical need of hands, to tackle the necessity of this world – the hands of man as a ‘mechanical artist’. But this remark also seems to bring us full circle with the title of the myth, *Cosmo-graphia*. The ‘all-capable hands’ are simultaneously, perhaps, the hands of the philosopher-poet, who has put together this ‘likely account’ from the scraps and leavings of his perceptions. This final ‘mechanical’ image could be seen to dignify man – not as a manipulator of nature, but as a *poietaes*, or ‘sense maker’ – typified, of course, by Bernard himself.

Thus, the *Cosmographia* ends with a (typically subtle and allusive) confirmation of man’s ‘inwardly mechanical’ philosophical mission. In this parting shot, Bernard can be seen to affirm there is no liberation, no wisdom, that is not also ‘taking thought for necessity’ – as he has implied throughout the ‘making’ of his divine myth, or ‘likeness’. This remarkable work, which has been analysed by a number of literary historians, for a multitude of reasons, has not been considered for this innovative encyclopaedic move: the overwriting of ‘liberal’ art as an inwardly ‘mechanical’ enterprise. Here I hope to have corrected that omission, by drawing out the reversal or fusion of the ‘liberal’ and ‘mechanical’ sustained by the *Cosmographia*, and implicit in his mythological commentaries. Put together, these works bring to full resonance the poetic, and ‘Orphic’, overtones of Hugh’s introduction of the *artes mechanicae* to philosophy some two decades earlier – and (by extension) their allegorical significance in the *De nuptiis*.

In the following chapter, we see how this allegorical significance was exploited again, and turned to polemical effect, by Alan of Lille. Alan, a student of Chartres, who probably encountered Bernard there or at Tours, is widely regarded as Bernard’s literary successor. Wetherbee states that his ‘career as a poet was largely defined by a sustained dialogue with the *Cosmographia*.’⁷⁴ Yet what should be observed, within this ‘sustained dialogue’, is his lively updating of the mechanical-demiurgic action of the *Cosmographia* – which in Alan’s *opus* works to caution a new breed of students, increasing in number from the 1160s, less concerned (to the alarm of Chartrians) to become *cultus*, than to be made *doctus*.⁷⁵

⁷⁴ Winthrop Wetherbee, *Alan of Lille: Literary Works* (Cambridge, MA 2013), p. xi.

⁷⁵ Gillian R. Evans, *Old Arts and New Theology: The Beginnings of Theology as an Academic Discipline* (Oxford 1980), pp. 3 and 5.

III.

The Mechanical Arts in the *De Planctu Naturae* and *Anticlaudianus* of Alan of Lille

Alan of Lille's two major allegories are the *De Planctu Naturae* ('Complaint of Nature'), and *Anticlaudianus*, completed in the 1160s and 1180s respectively.¹ Like the *Cosmographia*, both can be described as 'allegorical encyclopaedias'. Alan (figure 11) seized on Bernard's method of dramatising the *process* of learning – as a 're-making' of nature – based ultimately on Plato's *Timaeus*. In doing so, he, like Bernard, deployed the language of the crafts in order to dramatise the 'action' of the liberal, or trivial arts. His use of craft imagery is not unfamiliar to scholars. But, as with Bernard's, it has not been a critical priority.² It is yet to be recognised as an epistemological or encyclopaedic statement in its own right. In this chapter, I argue it points to a preoccupation of this author with the allegorical and 'poietic' potential of the *artes mechanicae*, established for him in the *Cosmographia*, and implicit in the arts' introduction to philosophy in the *Didascalicon* and commentary on the *De nuptiis*.

In Alan's works, however, the allegorical creation of the 'mechanical' liberal arts also acquires a new polemical tone and function, that sets it apart from these earlier iterations. Writing around twenty years later than Bernard, Alan was apparently concerned not only to cast philosophy in its poietic guise, to envisage the 'art' required of the soul in philosophy – as Bernard had done – but also to admonish the student-reader who would ignore that paideic and ascetic model. He was addressing a new breed of 'professional' schoolmen, growing in number in the second half of the twelfth century, who were less attuned to philosophy as a lifelong process, and soteriological enterprise, than they were to philosophy as an academic pursuit and 'product', split up into various 'marketable' specialisms, and oriented around qualifications. Together, his allegories are a homage to the *Cosmographia*, but also an elaborate (at times entertaining) *défense* of the whole Platonic-Ciceronian view of learning, the *cultura animi*, that the *Cosmographia* had inscribed – now under threat from this new set of academic *doctores*. To appreciate his

¹ For Alan's biography (of which we know little), see Gillian R. Evans, *Alan of Lille: The Frontiers of Theology in the Later Twelfth Century* (Cambridge, UK 1983) and Wetherbee's 'Introduction' to *Alan of Lille*, pp. vii–x.

² The exception in Bernard's case are the brief comments made by Brian Stock in *Myth and Science*. There is no equivalent mention of the mechanical arts in the existing scholarship on Alan.

particular recruitment and reliance on the imagery of *mechanica* we have first to address his encounter with this new social type, and the less nuanced, more ends-oriented view of philosophy they had begun to promulgate.

I. Trivial education from c. 1160 and John of Salisbury's *Metalogicon*

In this we are greatly assisted by the contemporaneous work of John of Salisbury – who seems to have studied alongside Alan of Lille at the School of Chartres in the 1140s.³ His *Metalogicon*, written in c. 1159 and addressed to Thomas Becket (whom John would later serve as secretary), is a treatise on education as then offered in the higher educational institutions of northern France.⁴ Charles Sears Baldwin called it ‘the cardinal treatise of medieval pedagogy’.⁵ Its chief and urgent aim was to refute the professionalisation of the arts gaining momentum from the 1150s. For John – as for Alan – the central and troubling issue, at the heart of this development, was the demotion of grammatical in favour of dialectical study.

The title *Metalogicon* is of Greek derivation, ‘in accordance with a fad for Greek titles prevalent among twelfth-century writers’ (as we have already witnessed with the *Didascalicon* and *Cosmographia*).⁶ John invents a synthesis of *μετα*, (in this case) ‘about’ or ‘for’ and *λογικων*, ‘logic’ or ‘logical studies’.⁷ ‘For, in it,’ he explains, ‘I undertake to defend logic’.⁸ As in the *Didascalicon*, ‘logic’ designates all three arts of the trivium – grammar, rhetoric, and dialectic (and is synonymous with ‘eloquence’).⁹ It is John’s goal to convince readers that the three trivial arts have to be taken together, and studied rigorously in succession. Through them, and through them only, is one able to cultivate the psychological ‘method’ or *methodon* necessary for the

³ That John and Alan were ‘fellow-students’ is described as a ‘strong possibility’ by Gillian Evans in *Alan of Lille*, p. 2.

⁴ John was recalled to his native England from France in 1154, where he became secretary to Theobald, Archbishop of Canterbury. He dispatched his *Metalogicon*, along with his (better-known) book on political science, the *Policraticus*, to Becket (then chancellor to Henry II) in 1159. Becket succeeded Theobald as Archbishop in 1161, and kept John on in his role of secretary. John also became Becket’s closest counsellor. He returned to France later in life and became bishop of Chartres in 1176.

⁵ Charles Sears Baldwin, *Medieval Rhetoric and Poetic (to 1400) Interpreted from Representative Works* (New York 1928), p. 155.

⁶ Daniel D. McGarry, ‘Introduction’ to *John of Salisbury, The Metalogicon: A Twelfth-Century Defense of the Verbal and Logical Arts of the Trivium* (Philadelphia 2009), p. xxi. I use McGarry’s translation throughout unless otherwise stated.

⁷ Ibid.

⁸ ‘Et quia logicae suscepi patrocinium, metalogicon inscriptus est liber...’. John of Salisbury, *Metalogicon*, Prologue, ed. Hall and Keats-Rohan, p. 10; trans. McGarry, p. 5.

⁹ Above, p. 21. John defends this designation at 1.10, Hall and Keats-Rohan, pp. 28–29; McGarry, pp. 32–33.

discovery of wisdom.¹⁰ Like Bernard, John is primarily concerned with the ‘psychological aspect of the philosopher’s experience’.¹¹

John establishes his argument, at the opening to the *Metalogicon*, by drawing on the ‘sacred theme’ of wisdom and eloquence:

Just as eloquence, unenlightened by reason, is rash and blind, so wisdom, without the power of expression, is feeble and maimed ... Reason, the mother, nurse, and guardian of knowledge would remain utterly barren, or at least would fail to yield a plenteous harvest, if the faculty of speech did not bring to light its feeble conceptions and communicate the perceptions of the prudent exercise of the human mind.¹²

He explains how his own teachers at Chartres trained students to perfect and ‘oil’ this partnership of inner thought and outward expression. He recalls, nostalgically, taking grammar under William of Conches, and rhetoric under Richard l’Èvêque – classes he is likely to have shared with Alan.¹³ William and Richard each followed the methods of the ‘greatest font of literary learning in Gaul’, Bernard of Chartres – who had his students ‘compose prose and poetry every day, and exercise their faculties in mutual conferences [*se mutuis exercebant collationibus*]’, establishing a smooth path, as it were, between articulation and intellection (and back again).¹⁴

But by the 1150s, this kind of rigorous trivial education had come under threat:

But later, when popular opinion veered away from the truth, when men preferred to seem rather than to be philosophers, and when professors of the arts were promising to impart the whole of philosophy in less than three or even two years, William and Richard were overwhelmed by the onslaught of the ignorant mob, and retired.¹⁵

¹⁰ McGarry emphasises the importance of ‘psychological method’ to John of Salisbury in his introduction to the translation, p. xxii. John also defines *ars* as *methodon* at 1.11, Hall and Keats-Rohan, p. 29; McGarry, p. 33.

¹¹ Wetherbee, *Platonism and Poetry*, p. 92. Also cited in the Introduction, p. 10, and at p. 57.

¹² ‘Sicut enim eloquentia non modo temeraria est sed etiam caeca quam ratio non illustrat, sic et sapientia quae usu uerbi non proficit, non modo debilis est ... Nam ratio scientiae uirtutumque parens, alrix et custos ... aut omnino sterilis permaneret, aut quidem infecunda, si non conceptionis eius fructum in lucem ederet usus eloqui, et inuicem quod sentit prudens agitatio mentis hominibus publicaret.’ *Metalogicon* 1.1, Hall and Keats-Rohan, p. 13; McGarry, pp. 10–11.

¹³ *Metalogicon* 1.24, Hall and Keats-Rohan, p. 54; McGarry, p. 71.

¹⁴ ‘Bernardus Carnotensis, exundantissimus modernis temporibus fons litterarum in Gallia.’ Ibid. 1.24, Hall and Keats-Rohan, p. 52; McGarry, p. 67; ‘Et quia in toto praeexercitamine erudiendorum nihil utilius est quam ei quod fieri ex arte oportet assuescere, prosas et poemata cotidie scriptitabant, et se mutuis exercebant collationibus ...’. Ibid. 1.24, Hall and Keats-Rohan, p. 54; McGarry, p. 70.

¹⁵ ‘Sed postmodum ex quo opinio ueritati praeiudicium fecit, et homines uideri quam esse philosophi maluerunt, professoresque artium se totam philosophiam breuius quam triennio aut biennio transfusuros auditoribus pollicebantur, impetu multitudinis imperitae iucti cesserunt.’ Ibid.; McGarry, p. 71.

Since then, 'less time and attention have been given to the study of grammar ... without which it is futile [*frustra*] to go on to the others. While other studies may contribute to "letters", grammar alone has the unique privilege of making [*facere*] one "lettered".'¹⁶

Keeping to the sacred theme of wisdom and eloquence, but now adopting the dramatic, more affecting terms of Martianus' *De nuptiis*, John imagines these *professores artium*, who ignore grammar and so the holistic study of eloquence, 'thrusting asunder what God has joined together'.¹⁷ It is worth saying that while John is not an 'allegorist' like Bernard and Alan, as a student of Chartres, he moves easily in and out of such allegorical terms:¹⁸

One who would eliminate the teaching of eloquence from philosophical studies, begrudges Mercury his possession of Philology, and wrests from Philology's arms her beloved Mercury. Although he may seem to attack eloquence alone, he undermines and uproots all liberal studies, assails the whole structure of philosophy, tears to shreds humanity's social contract, and destroys the means of brotherly charity.¹⁹

The 'one' who would eliminate eloquence from philosophy, wrest Mercury from Philology, and in doing so tear down 'the whole structure of philosophy', is identified later by the pseudonym 'Cornificius'.²⁰ John explains how Cornificius and his followers (the 'Cornificians') offer 'crash courses' in dialectic, which they market as an alternative to the holistic and laborious study of the

¹⁶ 'Exinde autem minus temporis et diligentiae in grammaticae studio impensum est ... sine qua frustra quis progrediatur ad reliquas. Licet autem et aliae disciplinae ad litteraturam proficiant, haec tamen privilegio singulari facere dicitur litteratum.' Ibid.

¹⁷ '... quod ad utilitatem omnium Deus coniunxit, nititur separare.' *Metalogicon* 1.1, Hall and Keats-Rohan, p. 13; McGarry, p. 11. An anonymous poem of the mid-twelfth century, thought to be by a Chartrian, and known as the *Metamorphosis Goliae Episcopi*, redramatised the wedding ceremony of the *De nuptiis* as though it was taking place in the milieu of the twelfth-century schools. In the poem, Philology cannot find her groom, who has been 'wrenched away' (the author suggests) by abusers of language. The poem is included in *Latin Poems Attributed to Walter Mapes*, ed. by Thomas Wright (London 1841), pp. 21-30. For an analysis (which I was unable to offer here), see Wetherbee *Platonism and Poetry*, pp. 127-134.

¹⁸ Where Hugh of Saint-Victor was perhaps more hesitant.

¹⁹ 'Mercurio Philologiam invidet, et ab amplexu Philologiae Mercurium auellit qui eloquentiae praeceptionem a studiis philosophiae eliminat. Et quamvis solam uideatur eloquentiam persequi, omnia liberalia studia conuellit, omnem totius philosophiae impugnatur operam, societatis humanae foedus distrahit, et nullum caritati aut uicissitudini officiorum relinquit locum.' *Metalogicon* 1.1, Hall and Keats-Rohan, p. 13; McGarry, p. 11.

²⁰ John blames the demise of grammar, and thus logic as a whole, on the puffed-up teaching of a so-called 'Cornificius'. This is a pseudonym taken from Donatus' *Life of Vergil* (since 'I am restrained by reverence for his Christian name', John says at 1.2). However, historians have been unable to identify a single person to whom 'Cornificius' might refer. It seems more likely that John created this straw man for rhetorical reasons: 'Cornificius' and the 'Cornificians' can be read as referring to the (looser) group of new masters and logicians - 'professional disputants' - flourishing at Paris at the time of writing. See Rosemary Barton Tobin's article, 'The Cornifician motif in John of Salisbury's *Metalogicon*', *History of Education* 13 (1984), pp. 1-6.

three verbal arts – and a surer, faster way into careers in academia, law, and medicine. They produce “fresh-baked” doctors’, he says, who ‘[have] spent more hours sleeping than awake in their study of philosophy, and [have] been educated with less expenditure of effort than those who, according to mythology, after sleeping on mount Parnassus immediately became prophets.’²¹ Now students, despising the traditional trivium, ‘speak only of “consistence” and “reason”, and the word “argument” [is] on the lips of all.’²²

The whole idea of mental exercise, of ‘making’ oneself wise or ‘lettered’ (*facere litteratum*) – an ideal enshrined in the marriage of wisdom and eloquence – is unfamiliar to this new type of scholar. John sees in the decline of this ultimately paideic model a growing negligence of the natural world: ‘Can the secret and hidden recesses of nature be charted by one who is utterly ignorant of all philosophy? Can they be understood by one who knows neither how to speak correctly, nor to comprehend what is written or spoken?’²³ The Cornifician obsession with the terminology of argumentation means that ‘to mention any of the works of nature [*operum naturae*] is considered a crime, or improper, crude, and alien to a philosopher.’²⁴ The exclusive (and distorted) practice of dialectic was dangerous largely because it bred a misconception that man had some ‘direct line’ to God. Masters taught syllogistic reasoning as a means for ascertaining incontestable ‘truths’ about the essence and substance of the Trinity – totally bypassing the imaginative *investigatio* of the cosmos and domain of *natura* that had been the crux of philosophy in previous centuries. Indeed, it was due to the rise of dialectic in this period that Theology would, eventually, emerge as an *ars* or discipline alongside the liberal arts within the medieval university – a development unimaginable in earlier medieval asceticism.²⁵

John’s defence of the grammatical basis of logic (and of philosophy) was also – inherently – an attempt to bring the arts ‘back down’, away from cavalier intervention into divine matters, to the

²¹ ‘Sed quid docebant noui doctores, et qui plus somniorum quam uigiliarum in scrutinio philosophiae consumpserant, et facilius institute quam illi iuxta narrationes fabulosas qui somniantes in Parnaso repente uates progrediebantur ...’. *Metalogicon* 1.3, Hall and Keats-Rohan, p. 17; McGarry, p. 15.

²² ‘Solam conuenientiam siue rationem loquebantur, argumentum sonabat in ore omnium.’ Ibid; McGarry, p. 16.

²³ ‘Nunquid enim naturae secretos latentesque cuniculos deprehendet homo totius philosophiae ignarus et qui nec recte loqui nouit, nec recte intelligere quae scripta sunt, aut quae dicuntur...?’ Ibid. 1.4, Hall and Keats-Rohan, p. 19; McGarry, pp. 18–19.

²⁴ ‘... nominare ... aut aliquid operum naturae, instar criminis erat, aut ineptum nimis aut rude, et a philosopho alienum ...’. Ibid. 1.3, Hall and Keats-Rohan, p. 17; McGarry, p. 16.

²⁵ This complex development, which I cannot unpack in depth here, is the subject of Gillian R. Evans’ *Old Arts and New Theology*. I have also referred to the studies of Stephen Ferruolo, *The Origins*; Alexander Murray, *Reason and Society in the Middle Ages* (Oxford 1978); and Ian P. Wei, *Intellectual Culture in Medieval Paris: Theologians and the University c. 1100–1330* (Cambridge, UK 2012).

articulation and imitation (the ‘excogitation’) of creation. Grammar, John says, ‘While [it is] an invention of man, still it imitates nature [*imitator naturam*]’; through this art, ‘the devices of reason may cleave [*cohaereat*] even more closely to nature’.²⁶ The language John uses here to describe the ‘attachment’ of language to nature recalls (perhaps deliberately) Bernard Silvestris’ emphasis on Mercury’s sensory wanderings through nature, and Aeneas’ *descensus ad inferos*, or ‘descent to earthly things through thought’ as the prerequisite to ‘marrying’ wisdom.

John never makes explicit reference to the ‘mechanical arts’ in this defence. Yet he seems to have recognised, like his forbears, their potential for describing the ‘mundane’ work of eloquence. In elaborating on the ‘imitative’ character of grammar, he uses the language – and persona – of Hugh’s ‘mechanic’, joining and disjoining matter, precisely to picture the ideal, poietic activity of the grammarian (emboldened, of course, by the precedent set in the *Cosmographia*). ‘In accordance with the divine plan, and in order to provide verbal intercourse in human society’, he writes,

Man first of all named those things which lay before him, formed and fashioned by nature’s hand, and which she had joined and separated [*compegerat et distinxerat*] from the four elements or from matter and form, so that they could be discerned by the senses [*sensibus*] of rational creatures and have their diversity designated by names as well as by properties.²⁷

This passage implies a simultaneity between the ‘naming’ carried out by man, and the joining and disjoining which nature carries out. Grammar, John suggests, *continues* the ‘fashioning’, the ‘joining and separating’, ‘distinguens et compingens’ which nature begins.²⁸ It *discerns* the order to her own workings, and ‘straightens out her circuitous wanderings’ (as he says earlier).²⁹ John (drawing inevitably on Bernard) realises and naturalises the poietic implications of Hugh’s earlier description of the mechanical artist, ‘making sense’ of the *opera* of nature and God. He computes mechanical art almost automatically as a figure for verbal art – for bringing out its

²⁶ ‘Sed licet haec aliquatenus immo ex maxima parte ab hominum institutione processerit, naturam tamen imitatur ...’. *Metalogicon* 1.14, Hall and Keats-Rohan, p. 33; McGarry, pp. 38–39; ‘Et ut familiarius rationis institutio naturae cohaereat...’ Ibid., Hall and Keats-Rohan, p. 34; McGarry, p. 40.

²⁷ ‘Homo enim ad exequendum diuinae dispensationis effectum, et ad instituendum inter homines uerbi commercium, rebus his primo uocabula indidit quae praeiacebant naturae manu formatae, et quas illa uel ex quattuor elementis uel ex materia et forma compegerat, et distinxerat, ut rationalis creaturae possent sensibus obici, earumque diuersitas sicut proprietatibus, sic et uocabulis insigniri.’ Ibid., Hall and Keats-Rohan, p. 33. In this case the translation is my own.

²⁸ Hugh had used the latter verb *compingere* himself to describe the soul ‘put together’ from the parts of nature, *compactam partibus naturae*; above, p. 40 (*Didascalicon* 1.1, Buttimer, p. 4; Taylor, p. 46).

²⁹ ‘... et anfractuosum eius circuitum dirigit ...’. *Metalogicon* 1.11, Hall and Keats-Rohan, p. 29; McGarry, p. 33.

transformative and civilizing function. For him, as for Bernard, the mechanical arts are a way of elaborating an ‘Orphic’ attitude to nature, exemplifying how we come to terms with nature through language and perception.

However, in the wider context of his *apologia*, this exemplary use of *mechanica* is a rarity. To find it systematically developed in response to the ‘half-baked’ Cornificians, we must turn to the works of his contemporary, and a closer follower of Bernard Silvestris, Alan of Lille.

II. The *De Planctu Naturae*

Alan’s *De Planctu Naturae*, or ‘Complaint of Nature’, postdates the *Metalogicon* by just a few years. It is, in many ways, a sequel to the *Cosmographia* (as the *Anticlaudianus* is a sequel to the *De Planctu*).³⁰ The setting is a cosmic one, and the principal character is *Natura*. Whereas in the *Cosmographia*, *Natura* headed a team of artisans to order the cosmos (exemplifying the work of the soul, or author), in the *De Planctu* – as its title suggests – *Natura* complains of the demise of the cosmos, which, it emerges, can be interpreted as the fault of dialecticians’ failure to ‘order’ her. Thus, the idea of the cosmos being ‘written’, implied in a reflexive way by the *Cosmographia* (following the *Timaeus*), is largely subsumed into the substance of the allegorical plot (and lament).³¹ Alan creates a drama, richer in narrative detail (if less subtle about its own poetic ‘making’) of *poiesis*-gone-wrong. The *De Planctu* is an eccentric fiction – exploitative of Bernard’s inventiveness – of what happens when the liberal or trivial artist does *not* ‘make sense’ of nature, when he *fails* to practise a ‘mechanical psychology’. In this brief discussion, I attempt to show this by working chronologically, though far from exhaustively, through the metaphors which drive its (somewhat convoluted) narrative.³²

³⁰ Like the *Cosmographia* it takes the form of a *prosimetrum*.

³¹ At the same time as Alan’s works imitate the poetic cosmologies, they predict the more plot-centred vernacular allegories of the thirteenth century. In particular, the *Roman de la Rose* as extended by Jean de Meun (1270–1275) – which restaged Nature’s complaint at the same time as inaugurating a new literary tradition. The *De Planctu* is almost ubiquitously included as a major influence in scholarship on the *Roman* – for example, in Jonathan Morton’s recent monograph *The Roman de la Rose in its Philosophical Context* (Oxford 2018), pp. 44–45 (and *passim*). For a broader introduction to the relationship between the traditions of Alan and Jean, see C. S. Lewis, *The Allegory of Love: A Study in Medieval Tradition* (Cambridge, UK 2013; first publ. 1936), pp. 55–194.

³² Alan’s convoluted style is widely noted by scholars: for C. S. Lewis (previous note), it made him a writer ‘much more to blame than to praise’. *The Allegory of Love*, p. 124. In his more level-headed analysis, which cautions against Lewis’ rhetoric, Wetherbee also submits that Alan was overwhelmingly concerned with ‘stylistic ingenuity’ which often makes his works ‘conventional, devoid of the sense of mystery that pervades Bernardus’ cosmology’. Wetherbee, *Alan of Lille*, p. xxxv.

One of the poem's distinguishing elements – which enables the more explicit references to education – is the inclusion of a human narrator, to whom *Natura* directs her complaint, and gives her verdict and penalty (the allegory's end and climax). The text itself opens in this narrator's voice, essentially a mouthpiece for Alan, as he blames the apparent disappearance of *Natura* (in the vein of John of Salisbury) on man who is 'too much the logician'.³³ This is evoked through the imagery of the *artes mechanicae*: the logician (meaning the 'limited' dialectician), the narrator says, 'strikes an anvil that mints no seed; the very hammer detests its anvil. No idea sets its seal on the matter of the womb; instead the plow makes furrows in barren ground.'³⁴

Importantly, throughout the *De Planctu*, *Natura* invokes mechanical art – plowing, forging – in a way that is more concrete and quotidian than anything found in the *Cosmographia*. We would never come across a blacksmith in the *Cosmographia*: the verbal art of man was implicated purely in the *cosmic* 'craft' of demiurgic personifications. In his less tightly reflexive sequel, Alan plays more daringly with the whole idea that nature is realised in – *and subject to* – 'ordinary craft'. *Natura* becomes the plaything of *manifestly human* arts, open to human slippage and misuse.³⁵ Indeed later, *Natura* corroborates the narrator's complaint, lamenting that,

The human race, fallen away from its noble origin, is barbarous in its construction of gender and practices a most irregular metaplasma ... he [man] shows himself a writer of sophistic falsehood ... He works my destruction by such constructions, and his combinations threaten to divide me.³⁶

This final line, 'he works my destruction by such constructions' and 'his combinations threaten to divide me', is a knowing and clever reversal of the idealising language of the mechanical artist 'joining and disjoining' natural materials used by Hugh, and metaphorically for the writer/grammarian by both Bernard and John. It makes a dramatic set-piece of John's reproach that the Cornificians fail to 'cleave to nature', to straighten her out (or make her intelligible).

³³ 'Hic nimis est logicus ...' Alan of Lille, *De Planctu Naturae* 1.26; Wetherbee, *Alan of Lille*, pp. 24–25. All subsequent page references for Alan's works refer to this edition.

³⁴ '... cudit in incude quae semina nulla monetat; horret et incudem malleus ipse suam. Nullam materiem matricis signat idea, sed magis in sterili litore vomer alat.' Ibid. 1.26–31.

³⁵ Alan's transformation of *Natura* into a human construct (meant polemically in the *De Planctu*) had far-reaching implications for her characterisation in later thirteenth-century allegories (see just above, n. 31). For these later 'Natures' which are beyond the scope of this thesis see Kellie Robertson, *Nature Speaks: Medieval Literature and Aristotelian Philosophy* (Philadelphia 2017).

³⁶ 'Humanum namque genus a sua generositate degenerans, in constructione generum barbarizans ... irregulari utitur metaplasmo...sophista falsigraphus invenitur ... Dumque in tali constructione me destruit, in sua synaeresi mei themesim machinatur.' *De Planctu Naturae* 8.8; Wetherbee, pp. 92–95. This passage comes later in the text, but it helps to introduce the meaning of the drama here.

In addition, both these descriptions of botched mechanical art (by the narrator, and then by *Natura*) allude to sexual transgression (the ‘hammer detests the anvil’; ‘the human race is barbarous in its construction of gender’) – epitomised, for Alan, by homosexual intercourse. A sexual metaphor for the trivium runs throughout the *De Planctu*, alongside and through the mechanical metaphor (while it is abandoned in the *Anticlaudianus*).³⁷ Broadly, this metaphor serves to reinforce how ‘ethics and grammar commingle’.³⁸ More specifically, it can be seen as a second, and interrelated, way of dramatising the verbal arts as *poiētic* arts, that should imitate and perpetuate nature’s creativity. It allows Alan to illustrate the practice of the trivium veering from a ‘natural’ and ‘imitative’ *reproductive* course, to an *unproductive* one (that ‘mints no seed’).

The poiētic lesson is developed, on *Natura*’s arrival, through an extended mechanical metaphor for verbal artistry – as weaving, or fabric making. The narrator, struck by the ‘joyous effect of her beauty’, details *Natura*’s exquisite appearance and ornamentation, with emphasis on her various, subtly-woven robes, showing the full *varietas* of creation.³⁹ He does so in a distinctly ‘writerly’ way: the narrator’s description of *Natura* describes the verbal *integumentum* the narrator, or Alan himself, is ‘weaving’ – teasing the reader that the ‘Nature’ of the fiction *is a fiction*, sewn together by the poet in the process of writing. The passage is also an elaboration of Heraclitus’ ancient aphorism, at the centre of Pierre Hadot’s study, that ‘nature loves to hide’ or ‘wrap herself up’ in fictions (a view which in many ways anticipated the *Timaeus*).⁴⁰ In Alan’s allegory, the robes serve to idealise the narrator (and philosopher generally) as a *poiētes*, imitating and transforming nature – as an ‘Orphic’ mechanical artist. But there is also, predictably, a problem with the robes – caused by the un-imitative, unmechanical art of dialecticians.

Her outer two garments depict the creatures of the air and sea – described with an amplified realism that harks back to Homeric *ekphrases*.⁴¹ The narrator marvels at length at the subtle

³⁷ Exclusive analysis of this metaphor and its sources can be found elsewhere. I am particularly indebted to the discussion of its Stoic roots by Jeffrey Bardzell, *Speculative Grammar and Stoic Language Theory in Medieval Allegorical Narrative: From Prudentius to Alan of Lille* (New York 2009), while the most extensive study is Jan Ziolkowski’s *Alan of Lille’s Grammar of Sex: The Meaning of Grammar to a Twelfth-Century Intellectual* (Cambridge, MA 1985). More recently, the theme has been taken up by Jonathan Morton, in ‘Ingenious Genius: Invention, Creation, Reproduction in the High Middle Ages’, *L’Esprit Créateur* 55, 2 (Summer 2015), pp. 4–19.

³⁸ Bardzell, *Speculative Grammar*, p. 97.

³⁹ *De Planctu Naturae* 2.5; Wetherbee, pp. 30–31.

⁴⁰ Above, Introduction, p. 16.

⁴¹ For example, the cosmos-within-a-cosmos of Achilles’ shield, *Iliad* 18.478–608 – one of the earliest expressions of the idea of writing as world-making, *poiēsis*, that Plato would systematise in the *Timaeus*.

construction of these garments, almost miraculously ‘without seam’, *inconsutiliter*.⁴² Beneath them, closest to the maiden’s body, is a damask tunic, which ‘sought to represent [*faciem aspirabat*] the appearance of earthly life’.⁴³

On the most prominent part of this garment Man, casting off [*deponens*] the dulling effect of sensuality [*sensualitas*], probed into the mysteries of heaven [*caeli penetrabat archana*], borne along a straight path by his rational faculty [*directa ratiocinationis aurigatione*]. But in this part the tunic had been torn apart [*discidium*], and clearly revealed the abuse it had suffered. Elsewhere, however, its parts were joined in elegant and unbroken harmony [*eleganti continuatione concordēs*], and suffered from no divisive misalignment.⁴⁴

The Man shown on the tunic seems intended as a kind of Adam-figure. According to one reading, he might be prelapsarian Man, looking directly to the skies without need of his senses. The tear represents the loss of this privileged relationship.⁴⁵ But Alan is also alluding, of course, to a second Fall – the Fall from grammar and *poiesis* – which man had developed precisely to bridge relations after the Fall of *Genesis*. This Man, who casts off sense and tries to penetrate the secrets of heaven, can also be read as one of the new, misguided dialecticians, who assume a ‘direct line’ to God (*like Adam*), unsatisfied with the more arduous reworking of *materia* the trivial arts demand. Indeed, in a later speech addressed to the narrator, which echoes this image, the goddess says that ‘the course of [men’s] thinking strays too freely when it dares to raise [its] discourse to the ineffable mysteries of the divine.’⁴⁶ Those who do so, ‘compel me, me whom they should invest with honour and reverence, to present myself, bereft of clothing, in the lewd fashion of a prostitute.’⁴⁷ This language of rapacity and fracture echoes John of Salisbury’s

⁴² *De Planctu Naturae* 2.25; Wetherbee, pp. 44–45.

⁴³ ‘... in terrestri elementi faciem aspirabat.’ Ibid. 2.28; Wetherbee, pp. 48–49.

⁴⁴ ‘In huius vestis parte primaria homo, sensualitatis deponens segnitiam, directa ratiocinationis aurigatione caeli penetrabat archana. In qua parte tunica, suarum partium passa discidium, suarum iniuriarum contumelias demonstrabat. In reliquis tamen locis partes, eleganti continuatione concordēs, nullam divisionis in se sustinebant discordiam.’ Ibid.

⁴⁵ Alan is drawing (and elaborating) on the tear motif in Boethius’ *Consolatio Philosophiae*. As the narrator of this allegory encountered the figure *Philosophia* – and her gowns showing the ‘ladder’ of the arts ‘which one might climb from lower to upper’ (see figure 4) – he also observed that ‘some ruffians had done violence to her elegant dress, and clearly bits of the fabric had been torn away’. Boethius, *The Consolation of Philosophy*, trans. by David R. Slavitt (Cambridge, MA 2008), p. 3. Later in Book 1, Prose 3, Philosophy explains the meaning of this image: certain people have ill-used philosophy in the past, trying to make it theirs by force and claiming they are philosophers without the proper training. The problem of ‘false philosophers’ and reckless grammarians was clearly a problem throughout the centuries, and Alan as well as John had a stock of polemical imagery which they could develop (in this case, for example, Alan uses the robe motif simultaneously to illustrate Heraclitus’ aphorism and the Chartrian concept of *integumentum*).

⁴⁶ ‘... iam nimis nostrae ratiocinationis series evagatur quae ad ineffabile deitatis archanum tractatum audit attolere.’ Ibid. 6.9; Wetherbee, pp. 74–75.

⁴⁷ ‘... et quam reverentiae deberunt honore vestire, me vestibus orphantam quantum in ipsis est cogunt meretricialiter lupanare.’ Ibid. 8.24; Wetherbee, pp. 104–105.

language for the ‘wrenching’ of Mercury from Philology, eloquence from wisdom. It is, of course, the same (impossible) divorce, of ‘outer’ word and ‘inner’ idea, which Alan is picturing. *Natura*’s ‘secret recesses’ (her *sapientia*) demand the ‘fabulations’, *fabulosis*, of eloquence, which she calls later, ‘a sort of elegant stitching’, *quadam eleganti sutura*.⁴⁸ Without such ‘fabulations’, she dissolves into nothingness. There is no kernel of truth ‘beneath’ her woven robes, Alan stresses (and teases). The tear reveals nothing except disorder. *Natura*’s ‘truth’ – and ultimately the truth of the Creator – lies in coming to terms with her surface through sense and language.

Indeed, when the narrator finally gets to the most intimate equipment of her feet and underclothing, he acknowledges his ignorance, using almost exactly the ‘apophatic’ words used by Plato’s *Timaeus* at the opening to his demiurgic account of nature.⁴⁹ ‘Since my knowledge of the plan of these images is only slippery conjecture [*probabilitatis lubrico*] not confident certainty [*non certitudinis fide*],’ he says, ‘I leave the matter to rest in quiet peace.’⁵⁰ The virtuous philosopher acknowledges his limitation to imaginative explanations of divine things – to crafting an *eikos mythos*, (or *mediocris explanatio*) from his sensations.⁵¹ He realises the truthfulness of his conjecture.

Once the ‘incantation’ of her robes is over, *Natura* introduces herself to the narrator, and explains she has ‘descended to the darkness of this perishable earthly world’: ‘to deliver to you, as my intimate confidant, my lamentation and plaint, and determine with you what sort of penalty ought to be assigned in response to so many criminal charges’ (i.e. the ‘perversion’ of the trivium).⁵² The laxities and transgressions of the contemporary student are framed, as before, in the terms of metalworking, or minting, we encountered briefly in the narrator’s opening criticisms.

To determine and justify her penalty, *Natura* gives a kind of autobiography – explaining how she was appointed by God as his ‘vice-regent’, ‘to stamp out the images of things, each on its own

⁴⁸ Ibid. 8.18; Wetherbee, pp. 100–101.

⁴⁹ Above, p. 11.

⁵⁰ ‘... sed quoniam solius probabilitatis lubrico, non certitudinis fide, huius seriem picturationis agnovi, hanc sub silentii pace sepultam praetereo.’ Ibid. 2.34; Wetherbee, pp. 52–53.

⁵¹ For these references to Plato and Calcidius, see above, p. 11.

⁵² ‘... ideo enim a supernis caelestis regiae secretariis egrediens, ad huius caducae terrenitatis occusum deveni, ut de execrabilibus hominum excessibus tecum, quasi cum familiari et secretario meo, querimoniale lamentum deponerem, tecumque decernerem tali criminum oppositioni qualis debeat poenae dari responsio ...’. *De Planctu Naturae* 8.13; Wetherbee, pp. 98–99.

anvil.⁵³ She explains she was never ‘to allow what was formed to deviate from the form impressed at the forge.’⁵⁴ ‘Assimilating similar to similar’, she ‘rendered the aspects of individual creatures according to their exemplars’.⁵⁵ The metallic material *Natura* impresses at her anvil echoes Bernard’s *Silva* in the *Cosmographia*. Alan’s language recalls, specifically, the language Calcidius had used for *silva* (his translation for *hyle*)– which ‘changes in accordance with the different, even contrary, species and forms of what it receives within itself’.⁵⁶ And as with the concept of *silva*, *Natura*’s metal stands simultaneously for the *materia* (the ‘draft’) of the text, being moulded by the writer. This meaning becomes clear as *Natura* shifts to the language of verbal art: despite her best efforts at the ‘forge’, ‘the pen with which I write would veer into sudden transgressions were it not guided by the finger of the supreme governor’.⁵⁷ This risk of transgression can be read as a risk posed by man: as with the torn robe, Alan is characterising *Natura* through the lens of human malpractice. The threat of her ‘veering’ from the path set her by the finger of God represents the threat of *dialecticians* veering in their ‘crafting’ of her.

Dramatising further her slip into idle hands, *Natura* goes on to describe how she took on a vice-vice-regent, so that she might herself ‘sojourn in the delightful palace of the ethereal region’.⁵⁸ This assistant is *Venus*, who – as the goddess of romantic love, and wife of Vulcan – should be ‘well versed in the art of the forge’.⁵⁹ *Natura* passes on to *Venus* the rules of all the trivial arts which must govern her fashioning.⁶⁰ First, ‘in her connections [*constructionem*], she should follow the canonical constructions of the art of grammar’, only ever joining masculine to feminine, hammer to anvil.⁶¹ Innovation is firmly prohibited. Here we come, essentially, full circle back to the narrator’s initial complaint of man’s descent into bad verbal practice (imagined as bad sexual practice). *Venus* represents man’s charge – from the beginning of time – to study

⁵³ ‘... propriis incudibus rerum effigies commonetans ...’. Ibid. 13.29; Wetherbee, pp. 108–109. Alan could be seen to be elaborating here on Hugh of Saint-Victor’s use of minting as an image for the maturation of the soul, at *Didascalicon* 1.1 (Taylor p. 47; and above, Chapter One, p. 43).

⁵⁴ ‘... ab incudis forma formatum deviare non sinerem ...’. Ibid.

⁵⁵ ‘ex conformibus conformando conformia, singularum rerum vultus reddidi sigillatis.’ Ibid. 8.30; Wetherbee, pp. 110–111.

⁵⁶ ‘... diversis tamen et contrariis speciebus eorum quae intra se recipit formisque variatur.’ Calcidius, *On Plato’s Timaeus, Commentary* 13.268, Magee, pp. 544–545.

⁵⁷ ‘... quia meae scripturae calamus exorbitatione subita deviaret.’ *De Planctu Naturae* 8.30; Wetherbee, pp. 110–111.

⁵⁸ ‘... meque in aetherae regionis amoenante palatio placuit commorari’. Ibid. 8.31.

⁵⁹ ‘... in fabili scientia conpertam...’. (I follow Wetherbee’s translation; a more literal translation would be ‘versed in the discipline of the artificer’). Ibid. Alan’s characterisation of Venus is a play on her mythical role as the (only partly faithful) wife of Vulcan, god of fire and metalwork – from whom she presumably learned her (dubious) skill.

⁶⁰ Ibid. 10.3–10; Wetherbee, pp. 123–131.

⁶¹ ‘... ut in suis connectionibus artis grammatice constructiones canonicas observaret ...’. Ibid. 10.3; Wetherbee, pp. 122–123.

language and philosophy *reproductively* and poietically. She also represents, of course, his failure to do so:

Ennobled by this distinctive equipment, Venus entered into possession of her earthly domain. Labouring strenuously [*desudando laborans*] with the aid of these instruments to continue the sequence of human generation, she carefully rejoined [*renodabat*] what had been severed [*intersecta*] ... But since the mind, wearied by sameness ... grows disdainful ... the effect of continual work took away her desire to work. Preferring, then, an effete life of sterile idleness to the exertion of fruitful labor [*fructuosis exerceri laboribus*], ignoring her responsibility for the work of maintaining the continuity of life ... she lapsed into childish indiscretion.⁶²

This description – particularly its latter half – would not be out of place in the *Metalogicon*. *Venus*' lapse is clearly intended as an allegory for those *doctores* of argumentation criticised by John for spending 'more hours sleeping than awake in their study of philosophy' and being educated with almost no 'expenditure of effort'. Alan's word for mechanical exertion (or lack of it) is *exercitium*, recalling the refusal of students to 'exercise the faculties in mutual conferences', 'mutuis exercebant collationibus', that was a hallmark of the classes of Bernard of Chartres.

Once her biography is over, we move towards a resolution of the problem, and the (slightly hesitant) promise of a return to earlier, paideic practice. *Natura* concludes her speech with the verdict of excommunication for dialecticians (the followers of *Venus*). For this she requires the help of *Genius*, her alter ego, *alter sibi*, and 'priest'.⁶³ He is presented as *Venus*' flipside – the more reproductive aspect of *Natura*'s creativity (or of man's creativity, *in* 'making sense' of her). He appears working as a 'good demiurge', rather like Bernard's *Physis* (who 'applied her *ingenium*' to *Silva*), bringing the forms of creatures into being from mere 'shadow' to 'the truth of their essential nature'.⁶⁴ He does so with a pen, working on vellum – yet another of Alan's characteristically blatant references to writing and the verbal arts. *Genius* is, of course, 'making sense' of creation as man should. In the context of the story, he represents the potential of man to turn away from the example of *Venus*, back to an imitative, poietic way of life and relationship with nature. (His use of 'vellum' may even be a way of signalling his 'integumental' practice).

⁶² 'Hiis apparatusum nobilitata praesignibus Venus terrestris incolatus cessit in patriam. Quae cum suis suffraganeis instrumentis ad humanae geneseos seriem contexendam desudando laborans ... intersecta ... renodabat ... Sed quoniam ... idempnitatem fastiditus animus indignatur ... continuataeque laborationis effectus laborandi seclusit affectum. Illa igitur magis appetens otii effeminari sterilibus quam fructuosis exerceri laboribus, serialis operationis exercitatione negotiali postposita, nimiae otiositas enervata desidiis coepit infantiliter iuvenari.' Ibid. 10.10; Wetherbee, pp. 130–131.

⁶³ Ibid. 16.25; Wetherbee; pp. 194–195.

⁶⁴ '... ab umbra ... ad veritatem suae essentiae transmigrantes ...'. Ibid. 18.7; Wetherbee, pp. 206–207.

However, where *Physis* personified an ideal of intellectual craft, the mind successfully shaping itself to nature, Alan's *Genius* is not – after all – entirely free of the influence of *Venus*. When his left hand takes over from his right, he strays into *falsigraphia* (a perversion of his earlier '*cosmographia*'). It takes *Natura*'s 'personal' and instructive presence to remind him of his imitative responsibility, for him to experience 'the newborn day of his eloquence'.⁶⁵ With this recovered eloquence, he pens the excommunication, against those who 'seek to render our laws obsolete'.⁶⁶ And on that note the allegory ends.

Through the figure of *Genius*, Alan places the final onus on the psychology and willpower of his reader. The restoration of a poietic and 'mechanical' approach to the trivium will rest, ultimately, on *individuals'* power to resist idle argumentation, and to recollect – through the exercise of their own *ingenium* – their duty to the goddess *Natura*.

III. The *Anticlaudianus*

Alan's *Anticlaudianus*, written around twenty years later, allegorises this very endeavour. In that sense it is a sequel to the *De Planctu*, or an extended, 'alternative ending' to that work's rather ambivalent resolution in the act of excommunication. It describes the convening of a sacred council, headed again by *Natura*, to discuss 'a unique means of relief from so great a plague' – this plague being the current state of humanity.⁶⁷ This time the council decides, following *Natura*'s suggestion, on the creation of a wholly New Man, *homo novus*, to right the wrongs of his predecessors.⁶⁸ The formation of this man becomes a metaphor for intellectual formation,

⁶⁵ '... suae exclamationis quasi aurora nascente ...'. Ibid. 18.14; Wetherbee, pp. 212–213.

⁶⁶ '... nostras leges obsoletas reddere ...'. Ibid. 18.13.

⁶⁷ *Natura* announces to a congregation of personifications, 'I have conceived a unique means of relief from so great a plague, but I will not speak of its implementation before our thought is tested by the standard of your judgement.' ('Unica coniecto tantae solatia pestis, quae tamen effectu describere nolo, priusquam norma iudicii vestri mens nostra probetur.') *Anticlaudianus* 1.225–227; Wetherbee, pp. 242–243.

⁶⁸ The title *Anticlaudianus* is a reference to the *In rufinum* of the fourth-century poet Claudian. This told the story of infernal powers inflicting the terrible Rufinus on the world – who after much suffering, is cast deep into hell. The *Anticlaudianus* (as its prefix implies) is a reversal of Claudian's tale, describing heavenly powers' creation of a new and perfect man who will restore peace to the world. For further analysis of Alan's use of Claudian and *Rufinus*, see Linda E. Marshall, 'The Identity of the "New Man" in the "Anticlaudianus" of Alan of Lille', *Viator* 10 (1979), pp. 77–94, at 77. Marshall's article is otherwise concerned with the possibility Alan's 'New Man' was conceived not only as an ideal but living man, Philip II Augustus of France (crowned in 1180) – come to correct the mistakes of the Plantagenets and their supporters. Without claiming an exact identity for the New Man, James Simpson notes that he is both a student of philosophy and a 'ruler very definitely in, and governing, a society' (Simpson, *Sciences and the Self*, p. 59).

or intellectual pilgrimage: it can be read as a realisation of the intellectual onus set on man by *Genius* in the *De Planctu*.⁶⁹ The drama of the *Anticlaudianus* is more straightforwardly ‘encyclopaedic’ and edificatory than the *De Planctu*. Its vision is more optimistic, and in this sense closer to the works of Hugh and Bernard, and particularly Martianus Capella.⁷⁰ It also involves – in its narration of the intellectual ‘correction’ of man – the most spectacular and assured allegorisation of the ‘mechanical’ liberal arts in the literature covered by this study.

The work begins with a Prose Prologue, in which Alan gives a self-conscious account of the crafted nature of the work – ‘the failings of the artefact’ – and warns off those without the willpower and *ingenium* to interpret it accordingly, as an act of *poiesis*, or allegoresis.⁷¹ ‘Mysteries are dishonoured’, he warns, ‘if their majesty is revealed to the unworthy’.⁷² The reader must work past the ‘sensory appeal of imagery’ with his own ‘file of correction’, *lima correctionis*.⁷³ This is another play on Timaeus’ caveat, that the demiurge represents his own conjectural craft. And as in the *Timaeus*, where the story dramatises or ‘enacts’ the *poietic approach* of the speaker, Alan’s story of the formation of man, which takes place over the first half of the *Anticlaudianus*, can be read as an image for the correct approach to the arts demanded in its opening.⁷⁴ The careful reader will find that in this story ‘may be heard the rules of grammar, the terms of dialectic, the commonplaces of rhetoric, the paradoxes of arithmetic, the harmonies of music, the axioms of geometry, the linear theorems, the surpassing dignity of astronomy, the maxims of divine theophany’.⁷⁵

⁶⁹ Wetherbee concludes his analysis of the *De Planctu* in roughly similar terms, suggesting that ‘the restoration of man to his original dignity, his *proprius status*, is the work performed, theoretically at least, in the *Anticlaudianus*.’ ‘Introduction’ to *Alan of Lille*, p. xxviii.

⁷⁰ Its optimism might reflect Alan’s state of mind at an older age, both more nostalgic for the past and more hopeful for the future. Its more instructive character also ensured it enormous success (far greater than the success of the *De Planctu*). It was quick to receive commentaries in the thirteenth century, by Alan’s own pupil Ralph of Longchamps (c. 1212–1213), and by William of Auxerre. The fullest accounts of these commentaries are given in Christel Meier’s ‘Die Rezeption des *Anticlaudianus* Alans von Lille in Textkommentierung und Illustration’, in *Text und Bild: Aspekte des Zusammenwirkens zweier Künste in Mittelalter undfrüher Neuzeit*, ed. by Christel Meier (Wiesbaden 1980), pp. 408–549; and Marc-René Jung, ‘Études sur le poème allégorique en France au moyen âge’, *Romanica Helvetica* 82 (Bern 1971). See also Robert Earl Kaske, *Medieval Christian Literary Imagery: A Guide to Interpretation*, Toronto Medieval Bibliographies 11 (Toronto 1988), pp. 89–113.

⁷¹ ‘... sed quamvis artificii enormitas imperitiam accuset artificis ...’. *Anticlaudianus* Prose Prologue 2; Wetherbee, pp. 220–221.

⁷² ‘... ne derogetur secretis si eorum maiestas divulgatur indignis.’ Ibid. 4; Wetherbee, pp. 222–223.

⁷³ ‘... sensualitatis ... imaginem ...’. Ibid. Accordingly, in the earliest commentary on the *Anticlaudianus* by Ralph de Lonchamps (above, note 70), the author says his gloss has two motivations: first, to render Alan’s allegory ‘easier of access’, and second, to exercise his own *ingenium*. Noted by Simpson, *Sciences and the Self*, p. 22.

⁷⁴ See, for example, Wetherbee’s ‘Introduction’ to *Alan of Lille*, p. xxxi: ‘the first half of the *Anticlaudianus* depicts the intellectual perfection attainable through the liberal arts and the origin of the soul’.

⁷⁵ ‘Quoniam igitur in hoc opera resultat grammaticae syntaseos regula, dialecticae lexeos maxima, oratoriae reseos communis sententia, arismeticae matheseos paradoxa, musicae melos, anxionia geometriae, gramatis theorema,

The narrative which promises to demonstrate these principles of the arts (trivial and quadrivial), begins with *Natura* convening her celestial council. She advises, as a means of relief from the ‘great plague’: ‘Let a man who does not reek of earthly foulness, a man not material but divine, dwell on earth through our efforts, and console us for our injuries.’⁷⁶ But there is a hitch: ‘our hands lack the strength for so great a work’, she says. The New Man’s soul must be the work of God Himself. Wisdom, or *Sapientia* (often also called Providence), is the only one present who is fit to seek His help.⁷⁷ Only she ‘no multitude of labours can make weary’.⁷⁸ Further, ‘so that her feet may encounter no stumbling block – in short, that she may accomplish quickly the impending mission, Wisdom decreed that a chariot be fashioned [*currum ... excudi*], in which she may traverse the heavens, the sea, the stars.’⁷⁹

The Latin for ‘chariot’, *currus*, is a pun on ‘curriculum’. It is built by the Seven Liberal Arts and driven by Reason. Its construction and journey are the events I wish to focus on here. But before doing so, we should note this episode does not form the ‘end’ of the *Anticlaudianus*.⁸⁰ At the outer reaches of heaven – as we will see – the chariot is left behind, and Providence, or *Sapientia*, is forced to continue alone on foot. After much trepidation, she reaches the divine court, aided by Faith and Theology, and retrieves the soul from God. She descends back to earth, the New Man is created, and after a battle in which the Virtues defeat the Vices, the New Man inherits the earth.⁸¹

astronomicae ebdomadis excellentia, theophaniae caelestis emblema ...’. *Anticlaudianus* 5; Wetherbee, pp. 224–225.

⁷⁶ ‘... unica coniecto tantae solatia pestis ... Non terrae faecem redolens, non materialis sed divinus homo nostro molimine terras incolat et nostris donet solatia damnis.’ Ibid. 1.225–237; Wetherbee, pp. 242–243.

⁷⁷ She is called by both names, *Providentia* and *Sapientia* – as well as by *Fronesis*, and occasionally *Sophia* and *Minerva*. See Wetherbee’s note for lines 270–271, p. 587, where he notes that, despite her ‘disconcerting’ multitude of names, ‘she is above all the personification of a human wisdom which encompasses not only the universal knowledge represented by the Liberal Arts but also theology.’ For this reason, I use *Sapientia* to refer to her, which also helps emphasise her relationship to the Philology (also known as wisdom) of *De nuptiis*.

⁷⁸ ‘Prudentia, cuius debellare nequit virtutem turba laborum ...’. *Anticlaudianus* 2.96–98; Wetherbee, pp. 266–267.

⁷⁹ That is, Wisdom or Providence. ‘Utque minus possit gressus vexare vianis limitis asperitas, pes scandala nesciat, immo ut citius possit munus complere quod instat, in quo percurrant caelum mare sidera, currum imperat excudi Sapientia.’ Ibid. 2.317–321; Wetherbee, pp. 282–283.

⁸⁰ The ultimate source for the chariot metaphor is the *Phaedrus* of Plato (c. 370 BC), which imagined the pre-incarnate soul being shown the Eternal Ideas from a chariot (which it then recollects once ‘living’ in a body). Alan had no direct access to this dialogue, but seems to have known it through other conduits, primarily perhaps through references in Boethius’ *Consolatio Philosophiae* (e.g. 246a; 247b). It would interrupt the present argument to compare and contrast Plato’s ‘original’ with Alan’s hyperbolic reworking. For this, readers can refer to the study of the chariot – its classical, biblical, and medieval incarnations – by Karlfried Froehlich, with the collaboration of Mark S. Burrows, *Sensing the Scriptures: Aninadab’s Chariot and the Predicament of Biblical Interpretation* (Grand Rapids, MI 2014), pp. 14 and 22 (and *passim*).

⁸¹ My summary is based roughly on Wetherbee’s: ‘Introduction’ to *Alan of Lille*, p. xxviii.

Despite the number of events which follow the chariot's ascent, its construction and journey are often thought of as the allegory's centrepiece – even its climax. Wetherbee has observed that 'Alan has clearly devoted far more care to the voyage of Providence, and what follows can seem mechanical, a separate poem robbed of dramatic energy'.⁸² Similarly, James Simpson has seen this first part of the poem, the ascent of Providence (which receives six books' description in total, where the descent and battle receive three) as containing the allegory's central lesson – even going so far as to suggest 'we should read the poem in reversed order' so that the chariot and ascent become the allegory's conclusion.⁸³ My focus on this part of the text can thus be seen to be in keeping with its privileging by previous expert readers.

To begin at the chariot's construction: the seven Liberal Arts charged with this task appear as if revived from their earlier, canonical personification in *De nuptiis*.⁸⁴ As the Liberal Arts prepared Philology for immortality in Martianus' text, here they prepare *Sapientia* for immortality by constructing her *currus*. They are again positioned as propaedeutic to salvation. Only now, they are personified, it is possible to argue, as mechanical artists, charged with manual work. The metaphorical significance of Eriugena's *artes mechanicae*, added to Martianus' marriage, arguably as a way of glossing the 'human devising' proper to *eloquence and the liberal arts*, is allegorically 'accomplished' here in Alan's allegory. The chariot can be read I think, from one perspective, as the culminative expression of the psychological crossover of the mechanical and liberal (or trivial), which draws on and combines the lessons of Eriugena, Hugh, Bernard, and the *De Planctu*.

The construction alone lasts nearly eight hundred lines, over two books (of a total of nine). Alan describes, in minute detail, the separate efforts of the individual Arts, as they come forward to compose their assigned component. In each case, 'there is no disharmony between thought and action, nor between mind and hand' ('Non mens discordat ab actu, non a mente manus.').⁸⁵ The Arts thus follow the model of *Genius* over *Venus*, and, more distantly, Bernard's *Physis*. Like both *Genius* and *Physis*, they idealise the growth of the soul (the chariot will 'carry') from material reworking – the dependence of the mind on the 'all-creative hands' of sense. Alan hammers

⁸² Wetherbee, 'Introduction' to *Alan of Lille*, p. xxxi.

⁸³ Simpson, *Sciences and the Self*, p. 66. This argument is laid out across three chapters of his book (two to four), pp. 22–91.

⁸⁴ I capitalise the Liberal Arts to distinguish the personifications (from the disciplines).

⁸⁵ *Anticlaudianus* 2.376–377; Wetherbee, pp. 284–285.

home this point in his description of Grammar – naturally the first of the sisters to confront her *materia*:

Untroubled by any fear of her burden, she goes vigorously to work, and at length her material, though very resistant [*multumque rebellis*], is conquered and obeys her will ... Now playing the role of artisan [*mentita fabrum*], she employs the artisan's weapons [*fabrilibus utitur armis*], conquers her unformed material, and compels unwilling matter to obey her [*servire sibi*]; she tames the stubbornness of wood and endows a log with the form of a beam.⁸⁶

Grammar crafts the most basic part of the chariot – the beam that will support the axle – just as she teaches the basic uses of language to infants. The ‘wood’, *lignum*, she transforms is (again) a relative of *Silva*: it behaves with the stubbornness of Bernard’s personification, or like the resistant metal of *Natura*’s forge. Indeed, Alan’s characterisation of Grammar, ‘taking up the artisan’s weapons’, is generally reminiscent of many of the allegorical protagonists we have encountered already – particularly *Physis*, *Venus*, and *Genius* (all of whom Alan relies on heavily for all the Liberal Arts of the *Anticlaudianus*). One might also note in this depiction John of Salisbury’s pseudo-allegorical portrayal of grammar, naming nature’s components as the mechanical artist ‘joins and disjoins’ her parts in the *Metalogicon*. Here Grammar behaves exactly as she ‘should’ in the ‘philosophico-poetic’ project, reconfiguring the impressions of sense into words and sentences. Her work is immortalised by figures of the ‘practitioners of Grammar’, *artifices Grammaticae*, carved into the beam.⁸⁷ ‘Here Donatus, guide, patron, and master’ teaches its precepts and trims away barbarism.⁸⁸

This last bit of allegorical embroidery takes us (and Alan) no further in terms of meaning, but it does deserve mention for its likely reference to the south portal of the west façade of Chartres Cathedral, erected sometime between 1145 and 1155 (figures 12–14 and 17). Here, Donatus (a fourth-century Roman) is found in precisely the practical posture described – along with the founding practitioners of the other seven liberal arts (Aristotle, Cicero, Pythagoras, and so on), who find their own way on to the chariot of the *Anticlaudianus* in the work of the successive

⁸⁶ ‘... non oneris concussa metu, non fracta labore, ad proprium desudat opus multumque rebellis materies tandem sequitur superata volentem ... Mentita fabrum, fabrilibus utitur armis, materiae fluxum superat cogitque negantem materiam servire sibi lignique rigorem edomat et lignum themonis ymagine vestit.’ Ibid. 2.477–484; Wetherbee, pp. 292–293.

⁸⁷ ‘Hic ortu sculptura novo vitaeque recenti Grammaticae locat artifices et vivere cogit.’ Ibid. 3.487.

⁸⁸ ‘Illic Donatus rector patronus et heres, Grammaticae precepta docens vitiumque recidens ...’. Ibid. 3.488–489.

ancillae.⁸⁹ One might argue (though it would require a separate study) that in its depiction of liberal practitioners, the Chartres portal visually emphasises the practice, or ‘mechanics’ of the liberal arts, expressed verbally in the works of its native authors: Alan, Bernard, and John of Salisbury.⁹⁰ Certainly Alan could have found its organisation and iconography complementary to his take on the arts in the *Anticlaudianus*.

Once he has exhausted the graphic possibilities of Grammar, Alan introduces *Logica* (or dialectic).⁹¹ ‘Her hand rouses her mind, stirs her ingenuity [*ingenium*], musters her faculties to model the form of an axle’.⁹² Logic’s material is iron (*ferrum*), not wood. As Alan advances through the Liberal Arts’ materials, they become more valuable as well as more malleable, suggesting the increasing refinement or intelligibility of ‘matter’ on the course of its assimilation by the soul (which the chariot represents). ‘Now the fire makes it hotter, then the hammer bends it, and both strive to mold the metal. Thus iron struggles with iron in an attempt to work it, so that by honouring its comrade it may thereby do honor to itself.’⁹³ Unlike *Venus*, who found it too great an effort to match hammer to anvil, ‘healthy’ Logic brings the two into harmony. Alan’s phrase for the hammer and anvil’s struggle, *ferrum ferro contendit*, seems to adapt the image of the forge used in the *De Planctu* to refer to the art of the syllogism. The way ‘iron struggles with iron’ could be seen to visualise how, in a syllogism, a conclusion is drawn from setting two assumed premises against one another, in ‘contention’.⁹⁴ Logic uses this method not for pleasure

⁸⁹ Occasionally, this figure is identified as the fifth-century grammarian, Priscian, rather than Donatus (see notes for figure 12). Jeauneau gives both options in *Rethinking the School of Chartres*, p. 96.

⁹⁰ This has to remain a tentative suggestion in the present study. One can note, however, that the sculptures of the Liberal Arts at Chartres were a peculiarity in the period. When the theme was repeated – notably on the central portal of the west façade at Sens, in c. 1200 – it was without the seven practitioners. Further iconographical analysis and comparison might allow a more concrete connection to be made between its practical *schema* and allegorical (‘mechanical’) representation of the arts by Chartrian poets. For an up-to-date analysis of the portal in the context of other depictions of the Liberal Arts (e.g. at Sens) – though not to this end – see Cleaver, *Education in Twelfth-Century Art and Architecture*, pp. 8–16; and Katzenellenbogen’s ‘The Representation of the Seven Liberal Arts’. Other studies on the iconography of the liberal arts include Michael W. Evans, ‘Personifications of the Artes from Martianus Capella up to the End of the Fourteenth Century’ (Unpublished PhD thesis, University of London 1970); Jutta Tezmen-Siegel, *Die Darstellungen der septem artes liberales in der Bildenden Kunst als Rezeption der Lehrplangeschichte* (Munich 1985); and Marie-Thérèse d’Alverny, *Etudes sur le symbolisme de la Sagesse et sur l’iconographie*, ed. by Charles Burnett (Aldershot 1993).

⁹¹ As in the *De Planctu*, Alan chooses the term *logica* rather than *dialectica* for the second/third art of the trivium. By contrast, Hugh of Saint-Victor and John of Salisbury stressed that *logica* was the term for the three arts all together. Alan’s terminology may be a sign of its ascension in the second half of the twelfth century, to an equivalent for ‘eloquence’ as a whole (as feared by John, and by Alan himself).

⁹² ‘Mentem manus excitat, urget ingenium, sensus proprios invitat, ut axis effigiet speciem ...’. *Anticlaudianus* 3.3–5; Wetherbee, pp. 294–295.

⁹³ ‘... nunc ignis demollit eam, nunc malleus ipsam flectit et ad cultum ferri suspirat uterque; sic ferrum ferro contendit, ut excolat illud, ut socium venerans sese veneretur in illo.’ Ibid. 3.95–98; Wetherbee, pp. 300–301.

⁹⁴ As in the ‘contention’ of the two premises ‘all men are mortal’ and ‘Socrates is a man’, yielding the conclusion ‘Socrates is mortal’.

but watchfully, ‘lest any sophist fashion false arguments for himself by hidden fraud’.⁹⁵ As the beam boasted the image of Donatus, Logic’s axle is adorned with the founding fathers of her discipline. Primary amongst them is Aristotle, whose skill is such that he ‘practices logic in such a way that he seems not to be doing so’.⁹⁶ He, too, is shown hunched over his tablet on the portal at Chartres (figure 14).

Next comes Rhetoric, this time with her practitioners (including Cicero, as shown on the portal) embroidered on her dress.⁹⁷ Rather than crafting a new element, this maiden ‘brings to the highest degree of perfection work that had been accomplished to a positive degree’ by her sisters, but not finished.⁹⁸ ‘She makes the shining surface of the beam flash with gems, and coats it here and there with silver; this outer dignity enhances [*succurrit*] its wooden substance, which is of a lesser dignity, and redeems its lowliness.’⁹⁹ Rhetoric then exercises the *colores* and *varietas* of her discipline. Alan emphasises that these ‘surface’ (and ‘fabulous’) qualities are not simply plastered on. Rather, they are the product of ‘enhancing’, *succurrens*, an order already latent in the natural material. *Succuro* comes from *sub* + *curro*: ‘to run beneath’. Rhetoric’s *ornatus* is both decorative, and organising, or *realising*. It evokes the Greek ancestor of *ornatus*, *kosmos* – which emphasised how the author ‘seeks to organize nature into a system’ – and which seemed to influence the Chartrians’ conception of the *integumentum*.¹⁰⁰ Rhetoric essentially crafts an ‘integument’ for the work of Grammar and Logic here. Her mechanical refinements represent the final transformation – her rhetorical ‘persuasion’ – of the cosmos into an intelligible ‘image’ by verbal art.

Together then, the three maidens of the trivium seem to complete the metaphorical work performed by the demiurge of the *Timaeus*. But in order for this to be a fully encyclopaedic allegory, like *De nuptiis*, Alan has to make room for the Arts of the quadrivium, who craft the chariot’s four wheels. These maidens work with noticeably greater ease than the trivial Arts. Their materials are less brittle, and they manipulate them not only with the hand, but by a kind of ‘force of mind’ (*mente virili*).¹⁰¹ This contrast becomes starker the further we move through

⁹⁵ ‘... ne falsa monetet argumenta sibi furtiva fraude sophista.’ *Anticlaudianus* 3.79–80; Wetherbee, pp. 300–301.

⁹⁶ ‘Sic Logicam tractat, quod non tractasse videtur...’ Ibid. 3.116; Wetherbee, pp. 302–303.

⁹⁷ Ibid. 3.225–249; Wetherbee, pp. 310–311.

⁹⁸ ‘Excolit illa gradu supremo quae positive facta gradu fuerant.’ Ibid. 3.143–154; Wetherbee, pp. 304–305.

⁹⁹ ‘Geminis stellatum speciem themonis inignit, argento sparsim theomonem vestit et ipsi ligni materiae, quae pollet honore minori, externus succurrit honor redimitque minorem.’ Ibid. 3.250–254; Wetherbee, pp. 310–311.

¹⁰⁰ Fletcher, *Allegory*, p. 121 (cited above, p. 64).

¹⁰¹ *Anticlaudianus* 3.282; Wetherbee, pp. 312–313.

(or ‘up’) the mathematical Arts. Arithmetic (the first of the four), still exerts ‘painstaking effort’, *operas operose*, but she also preconceives her product in a way the trivial arts did not: she ‘does not reveal by any sudden action the plan she has conceived; she does not begin abruptly to enact what her mind has produced.’¹⁰² Rather, she ‘fashions it mentally in the chamber of her mind before the task brings it into material existence.’¹⁰³ Similarly, Geometry, draws on ‘thought, hand, and purpose’, *mente manu studiis* (in that order) to ‘reshape her leaden material with many hammer blows [into] the desired form’.¹⁰⁴

The kind of ‘mental’ mechanical art practised by the quadrivial Arts, which proceeds *from* mind to hand, is a novelty in the context of the literature discussed so far. It might indicate an interest, on Alan’s part, in elements of Aristotle’s epistemology, being recovered into the French schools towards the end of the twelfth century.¹⁰⁵ As we go on to see in the next chapter, in several works made newly accessible around this time, Aristotle had defined the human crafts as intrinsically rational, ends-oriented (teleological) pursuits. They were re-cast as what we more traditionally associate with the Greek term *technē* – as master-arts, or technologies – losing their association with *poiesis*, or sensory ‘making’. I consider the impact of this development on the metaphorical use of the mechanical arts, after 1200, momentarily. Presently (and in order not to digress), I want only to point out that Alan, while primarily committed to, and dependent on, the sensory, poietic model and allegorical potential of the mechanical arts (traditional to Hugh and Bernard), betrays the first glimmerings of this shift in his characterisation of the quadrivial arts. He could be said to incorporate ‘old’ and ‘new’ conceptions of the mechanical arts – the ‘poetic’, and the ‘abstract’ – to differentiate the work of his two sets of *ancillae*, and particularly to set apart the latter, for whom there was no ‘demiurgic’ precedent.

Once the chariot is complete, five horses are yoked to it by Reason, the charioteer. Each of the horses represents one of the five senses – sight, hearing, smell, taste, and touch.¹⁰⁶ Alan is possibly depending, again, on Bernard – who ended the *Cosmographia* with the creation of man’s same senses, to locate human understanding (his ‘reality’) *in* his acts of perception. Alan’s ‘horses of

¹⁰² Ibid. 3.274–275; ‘Nec motu subito quod concipit exprimit actu, nec quod mens gignit subitos deducit in actos ...’. 3.341–342; Wetherbee, pp. 316–317.

¹⁰³ ‘Fabricat in thalamo mentis mentale priusquam materiale foras opus evocet’. Ibid. 3.353–355; Wetherbee, pp. 318–319.

¹⁰⁴ ‘Mente manu studiis invadit, corrigit ipsam materiem plumbi, quam crebro malleus urget, imprimit ad placitum formam.’ Ibid. 3.516–518; Wetherbee, pp. 328–329.

¹⁰⁵ Details of this ‘recovery’ are given in Chapter Four (especially p. 113, n. 39).

¹⁰⁶ *Anticlaudianus* 4.95–210; Wetherbee, pp. 336–345.

sense' appear to reiterate this lesson. They elaborate on the chariot as an image for intellectual ascent through 'sense making' (thus also returning us to the poietic dynamic of the trivial arts, briefly flouted for the arts of the quadrivium).

This same poietic dynamic is then imaginatively and persuasively developed by Alan in his account of the chariot's journey. This can be seen exquisitely condensed in a fifteenth-century drawing (proof of the enormous success of the work) from a German or Southern Bohemian manuscript, now at the Wellcome Collection in London (figure 15).¹⁰⁷ As the drawing shows to its left, the journey begins as planned, with Wisdom (labelled *Prudentia*) carefully examining the moon, the stars, and the planets of the sublunary sphere from the carriage – represented by the artist in concentric rings.¹⁰⁸ But when in the *Anticlaudianus* the chariot reaches the furthest edge of the sublunary sphere, and the beginning of the superlunary sphere – illustrated by the great golden door – the mission is thrown into doubt, and Wisdom becomes fearful of the road ahead. *Noys* (borrowed from the *Cosmographia*) comes forward and demands, 'that she abandon the chariot [*ut currum deserat*], leave the horses in the celestial region and leave her companion behind as well.'¹⁰⁹ 'For ... the heavenly path would not deign to accept such travelers, having known only journeys of another kind.'¹¹⁰ The drawing seems to simultaneously capture the chariot at a halt, and something of its earlier swiftness and intent. Wisdom (labelled *Prudentia*) can be seen continuing alone on horseback beyond the divine threshold.

This is a plot-move which, hermeneutically, keeps on giving. It was presumably key to the text's success with later commentators.¹¹¹ Clearly, it suggests the limited remit of the Liberal Arts who built the chariot with so much effort. Wisdom has to proceed alone, without their help (Alan suggests) and the help of Reason. In their place, she meets with the 'superior' personifications Faith and Theology, who guide her to God enthroned, where she submits her request for the soul (before returning to earth).¹¹² The arts are shown to be unprepared for the path to God, knowing 'only journeys of another kind' as Alan puts it: that is, journeys or 'wanderings' through *mundana*. At the same time, however, it is possible to argue that their abandonment (suggested

¹⁰⁷ For the work's enduring and widespread popularity, to which the Wellcome manuscript attests, see above, p. 90 n. 70; and Wetherbee's overview of Alan's 'Fortunae' in *Alan of Lille*, pp. xxxviii–xliii.

¹⁰⁸ *Anticlaudianus* 5.245–483; Wetherbee, pp. 346–363.

¹⁰⁹ '... ut currum deserat, ipsos in caelo deponat equos comitemque relinquat ...'. Ibid. 5.249–250; Wetherbee, pp. 378–379.

¹¹⁰ '... nec talem dignetur habere viantem semita caelestis, alios experta meatus.' Ibid. 5.254–256.

¹¹¹ Above, p. 90, n. 70.

¹¹² *Anticlaudianus* 6; Wetherbee, pp. 399–432.

by the abandonment of the chariot) does not *simply deny* their preparedness and relevance to divine knowledge. This moment in the story can also be seen as a way of paradoxically – apophatically – affirming the sapiential ‘reach’ of the arts.

This has been suggested by Eileen Sweeney, in a book that examines Alan’s theology alongside that of Boethius and Abelard.¹¹³ Sweeney argues that where previous readers of the *Anticlaudianus* (and she cites specifically Marie-Thérèse D’Alverny) have argued that the abandonment of the chariot shows the arts as “servants of God in the world, whose nature is to prepare man for the perfect knowledge which only faith can attain” – what this reading ‘does not quite bring out is that for Alan what this means is that the arts work toward their own obsolescence’.¹¹⁴ Sweeney persuasively suggests that Alan, who was deeply informed by the negative theological tradition of Pseudo-Dionysius, while he insists on the progress of Wisdom beyond the chariot, can also be seen to insist that this progress into divine matters is an ‘apophatic’ or negative by-product of the work of the Liberal Arts and Reason (represented by the chariot).¹¹⁵ The apprehension and sighting of the divine which Wisdom experiences can be read *as the recognition* of what we *cannot* know rationally – and thus, in some sense, as generated *by the very failure of Reason and the Arts* to embark on the second stage of the journey.

Sweeney draws attention, in explicating this more nuanced reading of the chariot’s abandonment, to the emphasis on Wisdom’s disorientation and uncertainty having dismounted. As soon as she is without her companions, Alan positions her in a space of un-knowing. He plunges her into a state of *aporia*, so that we are unsure of what she herself is actively or ‘positively’ comprehending. In the starry realms, Wisdom realises the questions she might ask are ‘wholly beyond her sphere; before such questions the mind fails, intellect is at a loss, reason grows dull, wisdom nods...’¹¹⁶ Once inside the heavenly halls, this emphasis on incomprehension only intensifies:

¹¹³ Eileen C. Sweeney, *Logic, Theology and Poetry in Boethius, Anselm, Abelard and Alan of Lille* (New York 2006).

¹¹⁴ *Ibid.*, p. 129.

¹¹⁵ Sweeney discusses the influence of Pseudo-Dionysius at p. 129. See also Evans’ discussion of the *via negativa* in Alan’s theology in *Alan of Lille*, pp. 21–63, at 32–38.

¹¹⁶ ‘...quod eius exsuperant cursus, ad quae mens deficit, haeret intellectus, hebet ratio, sapientia nutat...’. *Anticlaudianus* 5.368–370; Wetherbee, pp. 386–387. The remainder of Book Five is an account of the heavenly court and its citizens, though – interestingly – Alan does not describe the court through Wisdom’s eyes. This description is given in an objective voice with Wisdom temporarily out of the picture. For her to see the court as clearly as Alan wishes to picture it would (perhaps) be out of keeping with her dizzied cognitive state at this stage in the narrative.

When the maiden, entering the heavenly halls and approaching the throne of God, wished to sample these new wonders by gazing, their splendour troubled her sight and their novelty stunned her mind. Her sight failed before them, and her thoughts within were clouded as she pondered them. A dullness came over the watchful mind of Fronesis, a strange sleep weighed on her spirit, a trance of stupefying drowsiness compelled her to fall asleep.¹¹⁷

It is at this moment, when Wisdom (or Fronesis) has actually fallen unconscious, that Faith arrives to support and to guide her, perhaps in an altered state of wakefulness, to the throne of God.¹¹⁸ Alan makes it his task, throughout Wisdom's journey beyond the chariot, 'to create disequilibrium instead of a sense of sure-footed progress.'¹¹⁹ For Sweeney, Alan 'does not portray the "perfect knowledge" of faith but rather the failure of the arts in theology, both their failure to comprehend the subject of theology and to portray whatever it is faith knows.'¹²⁰ The abandonment of the chariot and continuation of Wisdom on foot, with the assistance of Faith and Theology, tells us of course that the Arts are *superseded by* Faith and Theology. But Alan could also be seen to demonstrate in his plot construction, and emphasis on Wisdom's incomprehension, the subsistence of Faith and Theology *within* the abandonment of the disciplines, in the acknowledgement of their failure. That is, Faith and Theology are to be understood not as separate skills, (indeed, Alan's aim is to show dialecticians there *is* no such thing as an 'Art of Theology'), but *as* the breakdown of reason and the Liberal Arts. What Alan's plot-twist suggests, as Sweeney eloquently summarises, is that 'without reason and education in the arts, we can have no sense of how reason and the arts are brought up short by theology. *Only reason*, in other words, *can show what reason cannot know*.'¹²¹ The Arts have a negative theological agency – they '*work toward* their own obsolescence', which is *itself* the discovery of the divine. One could argue that Alan even wants us to read the salvific vision of Wisdom as if *from* the abandoned chariot. As an aside, this is another reason why we might find the synoptic fourteenth-century drawing so compelling. Its arrangement, holding the 'before' and 'after' of

¹¹⁷ 'Postquam virgo Dei solium sedesque supernas ingrediens voluit nova praelibare videndo, offendit splendor oculos mentemque stupore percussit rerum novitas. Defecit in illis visus et interior mens caligavit ad illas. Sic sopor invasit vigilem, sic somnus adulter oppressit Fronesis animum, somnoque soporans exstasis ipsa suo, mentem dormire coegit.' *Anticlaudianus* 6.1–8; Wetherbee, pp. 398–399.

¹¹⁸ Alan has just said, in the passage cited, that Wisdom's drowsiness compelled her to fall asleep (*dormire coegit*). Then Faith rushes in to alleviate her faintness (6.14), apparently waking her up. However, Alan continues to stress Wisdom is acting in a trance, or *somnus* (6.94), which is compared at 6.95–100 to death itself (pp. 404–405). Alan needs to keep wisdom as the central actor and receiver of man's soul, but also to stress she acts in an altered and unconscious state (a state of 'negative' knowing, I suggest), opposite to (and in a sense the by-product of) the highly concentrated, rational work of the Liberal Arts.

¹¹⁹ *Ibid.*, p. 130.

¹²⁰ *Ibid.*

¹²¹ *Ibid.*, p. 142. My emphasis.

the chariot's journey in suspension, accommodates (intentionally or not) the apophatic reading arguably implied by the text: that the vision of God (to the right) is in some way *generated by, as well as consecutive to*, the 'approach' of the chariot (to the left).

Eileen Sweeney does not refer to the influence of the *Timaeus*, nor to the notion of *poiesis* in her study, which – as I argued in my analysis of the *De Planctu* – can be seen as central to Alan's particular blend of apophatic thinking. In this first part of his *Anticlaudianus*, I would add, Alan offers an 'apophatic-poietic' lesson, not unlike the lessons of his earlier major allegory. Recall how in the incantation of *Natura's* robes in the *De Planctu*, Alan (or the narrator), used words not unlike those of the speaker of the *Timaeus* to stress his limited, poetic understanding of her secrets: 'Since my knowledge of the plan of these images is only slippery conjecture [*probabilitatis lubrico*] not confident certainty [*non certitudinis fide*], I leave the matter to rest in quiet peace.'¹²² We saw how, for Alan, this limited knowledge was the *only* knowledge available to man. Those (dialecticians) who dared to raise their discourse to the divine (as *Natura* put it) would find only disorder.¹²³ Truth (in the terms of this allegory) was discoverable only in imitative, imaginative explanation – visualised by the narrator's verbal weaving of *Natura's* robes.

Given what has been argued so far with regard to the 'negative theological agency' of the Liberal Arts in the *Anticlaudianus*, we could identify a similar poietic message at play here. If we accept Wisdom's meeting with God can be read as a 'byproduct' of the liberal arts' 'work toward their own obsolescence', it is also possible to see this meeting, this moment of divine insight, more specifically as a 'poietic' (or 'apophatic-poietic') byproduct: an outcome of the reshaping and rejoining of sylvan *materia* that actually constitutes the work of the seven Liberal Arts in Books Two to Four. In terms of authorial register, the instant Wisdom dismounts, Alan announces that: 'Wholly abandoning the role of poet, I presume to claim for myself the new voice of a prophet.'¹²⁴ He imagines this promotion to a voice which gives voice to the Deity by comparing himself to devices or tools, being moved by a power beyond them. 'Of this song I will be the mere pen, not the scribe or author, a sounding brass, the writer's silent page, the singer's pipe,

¹²² '... sed quoniam solius probabilitatis lubrico, non certitudinis fide, huius seriem picturationis agnovi, hanc sub silentii pace sepultam praetereo.' Ibid. 2.34; Wetherbee, pp. 52–53.

¹²³ Above, p. 87.

¹²⁴ '... totumque poetam deponens, usurpo mihi nova verba prophetae.' *Anticlaudianus* 5.268–269; Wetherbee, pp. 380–381.

the sculptor's chisel.¹²⁵ As Wisdom loses her own powers of thought beyond the reach of the chariot, so the narrator loses his. The narrator's diminished consciousness or intentionality at this pivotal point in the narrative could be seen to redouble the negative-poietic lesson that seems to emerge in Wisdom's trajectory. Alan (or his alterego) sees himself here in what might well be called a 'mechanical' guise, working subrationally (but also suprationally) – like the pen, a brass, a page, a chisel. Higher knowledge is emphatically 'made' or crafted here. While the tools Alan identifies are to be considered acting under God's influence, which differentiates them from the 'mechanical' action of the Liberal Arts on the chariot – we might also note there is a basic resonance between this later language of craft, used to imagine the 'unthinking' role of the prophet, and the earlier manual crafting of Grammar and the arts of the trivium. Perhaps Alan's overtly mechanical imagery for divine knowledge be seen as a further gesture to the notion that such divine knowledge – ostensibly *beyond* the Arts' work – at some other, apophatic (or 'aporetic') level of the allegory, subsists *in* their work. Alan's flash of self-awareness here – his demeaning of himself to mere operative instruments that generate but do not *intend* divine knowledge (just as Wisdom perceives *unconsciously*) – arguably encourages us to look back on the humble, artisanal demeanor of the Liberal Arts as in some way *generative* of the higher, prophetic levels of truth that come 'after' their abandonment in the story. Liberation from earthly concerns is technically 'above' mundane making and craft, but Alan can also be seen to imply it is tied up with those processes – that it arises out of the imagined 'mechanical' disposition and behaviours of the mind or soul.

I noted earlier that while the episode of the chariot's voyage and frustration is not technically the end of the *Anticlaudianus*, it can or should be read as its climax.¹²⁶ It certainly rounds out this argument: not only to the place of *mechanica* in the works of Alan of Lille, but to its allegorical deployment in the twelfth century generally. In the first place, the allegory of the chariot can be seen to epitomise Alan's dependence on Bernard's inventiveness with the language and imagery of the mechanical arts, set out by Hugh, to dramatise education and philosophy as an act of inner world-making, or *poiesis*. The chariot is the finest example of how Alan – in both his *Anticlaudianus*, and the earlier *De Planctu* – transformed Bernard's achievement into an allegorical (and narrative) strategy to denounce, and to try to restore to the fold, those neglecters of Grammar and the trivium, John of Salisbury's 'Cornificians'.

¹²⁵ 'Carminis huius ero calamus non scriba vel auctor, aes resonans, reticens scriptoris carta, canentis fistula, sculptoris scalprum ...'. Ibid. 5.272–276.

¹²⁶ See above, p. 92.

The *Anticlaudianus* is also a terminal point in the use of the mechanical arts to visualise a philosophical, educational psychology informed by *poiesis*. From the end of the century, a range of new concerns came to dominate teaching, study, and writing about the liberal arts – as both Alan and John had feared. New *doctores* specialising in the arts of the trivium continued to read the *Anticlaudianus*, along with the *De Planctu* and *Cosmographia* – but more for their striking compositional imagery than for their philosophical ‘lessons’. In the final chapter of this thesis I show how later generations took up the imagery of the mechanical arts found in these twelfth-century ‘masterpieces’, while using that imagery to paint a radically new picture of the creative psychology proper to the writer or poet: directly opposed to the poietic picture that Hugh, Bernard, John, and Alan had used it to preserve in the first place.¹²⁷

¹²⁷ Douglas Kelly says this group of allegories attained the status of ‘masterpieces’ by the end of the twelfth century in *The Arts of Poetry and Prose* (Turnhout 1991), pp. 57–64.

IV.

Deferring the hand: Geoffrey of Vinsauf's *Poetria nova* and the 'Liberal' Mechanical Arts

As both Alan of Lille and John of Salisbury's works had anticipated, by the turn of the thirteenth century in northern France, it was no longer scholars' priority to assert the alignment of soul and cosmos through the holistic study of the liberal arts and eloquence. The educational or philosophical literature produced by the Schools (and faculties) became, on the whole, more specialised. Just as dialectic came to be studied on more exclusive terms, so did the 'art of poetry'. A range of new treatises began to emerge, designed to guide the student in the composition of verse. The *Artes Poetriae*, as they were known, have been described as the fullest answer 'to the comprehensive needs of compositional training' from the late twelfth century.¹ Indeed, while versification is their subject, they draw heavily on 'grammatical and rhetorical precept'.² James J. Murphy has called them 'preceptive grammars', since they direct the would-be writer, through the principles of both grammar and rhetoric, to the construction of a 'future poem'.³

To the same extent that the 'modern' nature of these manuals is noted by scholars, it is widely understood that they owed a great debt to the poetic cosmogonies, or 'allegorical encyclopaedias' of Bernard Silvestris and Alan of Lille. The best-known of the new works is Geoffrey of Vinsauf's appositely titled 'New Poetry', or *Poetria nova*, begun around 1200, and completed in around 1215. It was preceded by (and perfected much of the advice set out in) Matthew of Vendôme's *Ars versificatoria* (c. 1175).⁴ Both Matthew and Geoffrey are thought to have known either Bernard or Alan personally. Before he became a teacher in Paris (where he may have met Alan),

¹ Copeland and Sluiter, *Medieval Grammar and Rhetoric*, p. 547.

² *Ibid.*, pp. 544–545.

³ James J. Murphy, *Rhetoric in the Middle Ages: A History of Rhetorical Theory from Saint Augustine to the Renaissance* (Berkeley 1974), p. 169. Murphy takes the term 'future poem' from Douglas Kelly, 'The Scope of the Treatment of Composition in the Twelfth and Thirteenth-Century Arts of Poetry', *Speculum* 41 (1966), pp. 261–78, at 273.

⁴ The *Poetria nova* and *Ars versificatoria* are the earliest of a total of six *Artes Poetriae* identified by James Murphy. They were succeeded (in Murphy's identification) by Geoffrey's own *Documentum de modo arte dictandi et versificandi* (after 1213); Gervase of Melkley's *Ars versificaria* (c. 1215); John of Garland's *Parisiana poetria de arte prosayca, metrica, et rithmica* (c. 1220; revised c. 1231–5); and Eberhard the German's *Laborintus* (after 1213). Murphy, 'The arts of poetry and prose' in *The Cambridge History of Literary Criticism, Volume II: The Middle Ages*, ed. by Alastair Minnis and Ian Johnson (Cambridge, UK 2008), pp. 42–67, at 43.

Matthew had been a student of Bernard at Tours, probably in the 1150s.⁵ Less is known about Geoffrey's life, but he seems to have been an Englishman, who received much of his schooling in Paris from around the 1160s, where he may have encountered Alan of Lille (as well as Matthew).⁶

Matthew and Geoffrey took naturally, and abundantly, from their 'mentor's' imagery for poetic composition. Winthrop Wetherbee has made this connection a number of times in his work on the earlier authors – writing in the 1973 edition of his translation of the *Cosmographia*, for example, that 'the *Ars versificatoria* of Matthew of Vendôme reveals in many points of detail the influence of the poems of Bernardus and Alain'; while Geoffrey of Vinsauf used terms 'borrowed from Bernardus and Alain' to describe the poet as 'taming unruly words, reducing them to order so that their outer *ornatus* corresponds to an ideal model.'⁷ Wetherbee says elsewhere that the *Cosmographia* was perhaps the ultimate 'model for Geoffrey of Vinsauf's account of the imposition of order on one's literary subject matter'.⁸

The present chapter seeks to interrogate this inheritance more carefully. Specifically, I want to suggest that the *Artes Poetriae* – focussing on Geoffrey's *Poetria nova* – drew on the language of the 'mechanical arts' found in the *Cosmographia*, *De Planctu*, and *Anticlaudianus* in their depiction of 'taming unruly words' and 'imposing order' on *materia*. Importantly, I am not the first to suggest Geoffrey was interested in the mechanical arts: Mary Carruthers recently proposed in a study of medieval aesthetics that he deployed a 'a lexicon of medieval mechanical arts' to picture his poetic practice.⁹ She also footnoted Hugh of Saint-Victor's account of the category in his *Didascalicon*, written eighty or so years earlier.¹⁰

⁵ See above p. 54, n. 2. Matthew also taught at Orléans, a renowned centre for grammatical study in the twelfth century. For his biography, see Edmund Faral, *Les arts poétiques du XIIe et du XIIIe siècle* (Paris 1923; reprinted Paris 1958), pp. 1–14.

⁶ His encounter with Alan is suggested by Woods, *Classroom Commentaries*, p. 1, n. 3. For a summary of his teaching career (or what we know of it) see Martin Camargo's 'Introduction to the revised edition' of Margaret F. Nims' translation, *Geoffrey of Vinsauf: Poetria nova* (Toronto 2010), pp. 8–9. I use Nims' translation throughout.

⁷ Winthrop Wetherbee, *The Cosmographia of Bernardus Silvestris* (New York 1973), p. 57.

⁸ Wetherbee, 'Philosophy, Commentary, and Mythic Narrative', p. 225. Wetherbee has also noted the influence of Bernard's descriptions of 'disciplining recalcitrant words' on Matthew of Vendôme, in *Platonism and Poetry*, pp. 150–151. Wetherbee has drawn attention to the 'debt' owed by the authors of the 'Arts of Poetry' to Bernard and Alan perhaps more thoroughly than any other scholar – while the basic fact of this influence has been noted widely (in the most general terms): e.g. *Medieval Literary Criticism: Translations and Interpretations*, ed. by Alex Preminger, O. B. Hardison and Kevin Kerrane (New York 1974), p. 30.

⁹ Carruthers, *The Experience of Beauty*, pp. 87–88.

¹⁰ Ibid.

Unlike Wetherbee, however, Carruthers is unconcerned with the influence of twelfth-century allegorists on Geoffrey and his contemporaries.¹¹ Here we can contextualise her observation. It was on the example of the twelfth-century allegorists, I show, that Geoffrey referred to the lexicon of the *Didascalicon* to illustrate and define his ‘Art of Poetry’. Restoring this twelfth-century ‘lineage’ (second nature to literary historians, like Wetherbee) allows us to make an instantly more nuanced and historicised analysis of his metaphors. For while his imagery is ‘borrowed from Bernardus and Alain’, and built on their ‘Orphic’ appropriation of *mechanica*, it also signals a radical departure from their example. Instead of picturing liberal or trivial study as a ‘hands-first’ or ‘sense-first’ endeavour, which ‘makes sense’ of nature, Geoffrey’s mechanical imagery defines verbal art as a specialised intellectual practice defined by ‘practical interior vision’.¹² In the words of Rita Copeland and Ineke Sluiter,

The arts of poetry set out to grasp the literary text in its formal or structural entirety ... They chart the progress [of composition] from an interpretive stance ... to a generative stance, encompassing the *conceptual process of invention* and the inner formal logic of the text which the writer will bring into being.¹³

James Murphy notes that ‘the term “art” or *ars* when applied to such a treatise [‘Art of Poetry’] indicates a discussion of what the ancient Greeks would have called *technē* – “technique” or “craft”’.¹⁴ But the Arts of Poetry also provide – as Copeland and Sluiter imply (and Umberto Eco has separately stated) – ‘a *theory* of the art of poetry’.¹⁵ They want to create designer-poets and professionals, originators of ideas, who come to their materials from the heights of preconception and according to a set of precepts. The genre – as it depended on the precedents of Bernard and Alan – was also tied up with the recovery of Aristotle’s writings on *technē*, accompanied by its application in the *Ars Poetria* of Horace. It is these works which supply the ‘Greek’ conception designated by Murphy. The imagery of the *artes mechanicae* deployed in the *Poetria nova* navigates – and exposes – the recovery of this conception. It expresses an evolved, or *evolving*, understanding of craft as just as much (if not more) to do with mental work, as handiwork (hinted at in Alan’s personification of the quadrivial arts’ ‘force of mind’, *mente virili*).¹⁶

¹¹ (See below, p. 107, n. 20).

¹² Summers, *The Judgement of Sense*, p. 262.

¹³ Copeland and Sluiter, *Medieval Grammar and Rhetoric*, p. 548 (my emphases).

¹⁴ Murphy, ‘The arts of poetry and prose’, p. 44.

¹⁵ Umberto Eco, *Art and Beauty*, p. 102.

¹⁶ Above, p. 96.

The following discussion attempts to elucidate this evolution and transformation of the mechanical arts' efficacy implied by the *Poetria nova*. It does so across three main sections. The first of these considers Geoffrey's mechanical imagery in direct comparison and contrast to that of the cosmologists – attempting to draw out in more detail his emphasis on forethought and 'interior vision' by contrast to their emphases on poietic 'making'.¹⁷ The second part seeks to establish the historical and 'bibliographical' context for this shift – turning to the Aristotelian corpus of works, recovered from the late 1100s that discuss the crafts or *technai* in very different terms to those available in earlier medieval intellectual culture. Finally, in the third section, I look ahead of Geoffrey, to the middle of the thirteenth century. I argue that, in mingling the mechanical imagery of the allegorists with a new notion of *technē*, his work helped shape a long-term scholastic understanding of the 'craft of invention' which was fundamentally at odds with the humanistic and poietic incarnation of this theme that preceded it, and which has often prevented the latter from receiving the attention it deserves.

I. From the Arts as *Poiesis* to the Art of *Poetria*

Copeland and Sluiter remark that the *Artes Poetriae* take an 'interpretive' and a 'generative stance' towards the text 'the writer will bring into being' – and the structure of the *Poetria nova* faithfully reflects these stances. It is divided into five main sections, which chart the compositional process through 1) the ordering of the material; 2) the amplification and abbreviation of parts; 3) stylistic ornamentation; 4) memorisation of the material; and 5) its delivery.¹⁸ The best-known passage of the entire text comes in Geoffrey's preface, or 'general remarks about poetry', and involves a comparison of the poet to the architect, whose example teaches the student to plan his work in advance of setting pen to paper:

If a man has a house to build, his impetuous hand does not rush into action. The measuring line of his mind first lays out the work [*praemetitur opus*], and he mentally outlines the successive steps in a definite order. The mind's hand shapes the entire house [*praescribit*] before the body's hand builds it. Its mode of being is archetypal

¹⁷ Ibid., p. 109.

¹⁸ These reflect Cicero's five canons or tenets of rhetoric, set out in the *De Inventione* 1.7; *De Oratore* 1.31.142; and in Quintilian's *Institutio Oratoria* 3.3. While Geoffrey's closest classical model is Horace's *Ars Poetica*, this was written in the form of an epistle, and had no clear or adoptable structure – thus (perhaps) his recourse to traditional rhetorical divisions. He was also following behind Matthew of Vendôme – whose *Ars Versificatoria* was divided into roughly similar sections, on: 1) inner meaning; 2) elegance of diction; 3) *schemata*, tropes, and colours of rhetoric; 4) the treatment of the material. Copeland and Sluiter, *Medieval Grammar and Rhetoric*, p. 559.

before it is actual [*prius archetypes quam sensilis*]. Poetic art may see in this analogy [*speculo*] the law to be given to poets: let the poet's hand not be swift to take up the pen, nor his tongue be impatient to speak; trust neither hand nor tongue to the guidance of fortune. To ensure greater success for the work, let the discriminating mind [*mens discretel*], as a prelude to action [*praeambula facti*], defer the operation of hand and tongue, and ponder long on the subject matter. Let the mind's interior compass first circle the whole extent of the material ... As a prudent workman, construct the whole fabric within the mind's citadel before it is on the lips. When due order has arranged the material in the hidden chamber of the mind, let poetic art come forward to clothe the matter with words.¹⁹

This is the first and most extended (as well as most representative) metaphor of the *Poetria nova*. It is passages like it which Wetherbee sees as suggestive of Geoffrey's reliance on Bernard and Alan's descriptions of the 'imposition of order' on unruly *materia*. But it is not in the remit of his analysis to interrogate that relationship further, or to highlight potential divergences between it and the descriptions of the cosmologists. Similarly, for Carruthers this passage suggests the potential relevance of the *artes mechanicae* to Geoffrey, but she does not compare and contrast it with the 'mechanical' imagery of his literary predecessors.²⁰

For one who is familiar with the latter, the cause-and-effect dynamic in Geoffrey's opening is a noticeably new development. Hugh of Saint-Victor had defined the *artes mechanicae* – building included – as imitative, wholly manual activities. It was Hugh's experiential characterisation of

¹⁹ 'Si quis habet fundare domum, non currit ad actum Impetuosa manus: intrinseca linea cordis praemetitur opus, seriemque sub ordine certo interior praescribit homo, totamque figurat ante manus cordis quam corporis; et status ejus est prius archetypus quam sensilis. Ipsa poesis spectet in hoc speculo quae lex sit danda poetis. Non manus ad calamum praeceps, non lingua sit ardens ad verbum: neutram manibus committe regendam fortunae; sed mens discrete praeambula facti, ut Melius fortunet opus, suspendat earum officium, tractetque diu de themate secum. Circinus interior mentis praecircinet omne Materiae spatium. Certus praelimitet ordo unde praearripiat cursum stylus, at ubi Gades figat. Opus totum prudens in pectoris arcem contrahe, sitque prius in pectore quam sit in ore. Mentis in arcano cum rem digesserit ordo, Materiam verbis veniat vestire poesis.' Geoffrey of Vinsauf, *Poetria nova* 43–61; Nims, p. 20. The Latin text is Ernest Gallo's, in *The Poetria nova and its Sources in Early Rhetorical Doctrine* (Paris 1971), pp. 14–129, itself based on Edmond Faral's edition, *Les artes poétiques du XIIIe et du XIVe siècle* (Paris 1923), pp. 197–262. The line numbers in this and all subsequent references refer to those as marked in Gallo's Latin edition.

²⁰ Carruthers, *The Experience of Beauty*, p. 204. One of Carruthers' special areas of expertise is Chaucer – who called Geoffrey his 'deere maister soverayn' (in *The Nun's Priest's Tale*, 4537). Her portrayal of Geoffrey as an innovator and galvaniser (rather than re-worker) of medieval ideas about poet-craft, perhaps reflects a Chaucerian perspective. For the importance of Geoffrey to Chaucer's language of craft see Peter J. Fields, *Craft and Anti-Craft in Chaucer's Canterbury Tales* (Lewiston, NY 2001). For other, broadly similar, references to Geoffrey of Vinsauf in the works of Carruthers, see 'The Poet as Master Builder: Composition and Locational Memory in the Middle Ages', *New Literary History* 24, 4 (1993), pp. 881–904, at 889. She also prioritises Geoffrey's example in 'The Concept of *Ductus*, or, Journeying through a Work of Art', *Rhetoric Beyond Words*, ed. by Mary Carruthers, pp. 190–213. Perhaps for similar reasons to Carruthers (i.e. a prior familiarity with Chaucer and vernacular tradition), Geoffrey's example is privileged by Lisa Cooper's *Artisans and Narrative Craft*, pp. 9–10. For the popularity of the analogy to building (after Geoffrey) more generally, see David Cowling, *Building as Text: Architecture as Metaphor in Late Medieval and Early Modern France* (Oxford 1998).

the arts, and the *denial* of their dependence on the kind of rational pre-calculation found in the higher arts, on which their earlier exemplary power was built. Bernard and Alan adopted their lexicon, we have seen, to frame the liberal arts in the terms of the senses and sense-making. The mechanical artistry of *Noys* and *Physis* in the *Cosmographia*; *Natura* and *Venus* in the *De Planctu*; and the *Artes Liberales* in the *Anticlaudianus*, all served to figure (in differing ways) the author-student's 'poietic' mission to re-create the cosmos in and through language.

The mechanical artistry of Geoffrey's architect-poet is clearly (or at least partly) inspired by these 'Orphic' *dramatis personae*. But it creates an entirely different picture of trivial invention – that is not poietic, or interpretive, but autonomous, and ends-directed (echoing only Alan's arts of the quadrivium). It gives a 'face' to Matthew of Vendôme's neat summary of 'the performance of poetic ability' ('poetice facultatis exercitio'), in his *Ars Versificatoria*: 'imagination precedes [*precedit*] the senses, speech follows [*sequitur*] as the interpreter of thought, and then comes arrangement in the quality of expression.'²¹ 'Prior to the idea is the conception', and only later, 'appended' or 'annexed' to the conception, *subiungitur*, comes 'the character of the subject matter or the arrangement of the treatment.'²²

Geoffrey's architect encapsulates this new, preceptive 'psychology' of poetic invention. As Carruthers says, it teaches how the poet 'must first shape his work in his mind before he gives it any material form, fashioning it mentally before doing so materially'.²³ It reflects how the text's 'mode of being' should be 'archetypal before it is actual', or 'sensed', Geoffrey says, 'prius archetypus quam sensilis'. In the image, the discriminating mind, *mens discrete*, directs and defers the (less discriminating) hand: a message reinforced by the repeated use of the prefix *prae-* for all the verbs of making: *praemetere*, *praescribere*, *praeambulare*. Here Geoffrey then uses the example of a mechanical art to postpone 'making', to push back the locus of creation from the hand (and 'sense') to the mind and intellect.

The architect planning his composition, 'fashioning it mentally before doing so materially', sets the tone for the mechanical metaphors which run throughout the *Poetria nova*. It is fair to say that these can become repetitive: it would be unproductive to detail every one of them here.

²¹ '... in poetice facultatis exercitio precedit ymaginatio sensus, sequitur sermo interpret intellectus, deinde ordinatio in qualitate tractatus ...'. Matthew of Vendôme, *Ars Versificatoria* 3.51, Munari, p. 191; trans. by Roger P. Parr (Milwaukee 1981), p. 92.

²² '... prior est sententie conceptio ... subiungitur qualitas, scilicet materie sive tractatus dispositio.' Ibid.

²³ Carruthers, *The Experience of Beauty*, p. 204.

Instead of moving through the treatise part by part, I want to draw together a picture of his interests from just several of particular note. Alongside the architect, Geoffrey is especially keen, for example, on the figure of the medic, or physician. He uses this other ‘mechanical artist’ in section three of the *Poetria*, to dramatise the writer’s generation of ‘stylistic ornament’ – or *ornatus*. We have encountered this term already in the discussions of Bernard and Alan – who thought of *ornatus* in the terms of ‘integument’, and by extension of its Greek antecedent, *kosmos*. For them, a text’s *ornatus* was related to the discovery of cosmic meaning – it manifested the author’s poietic work of improving nature, transforming *mundana* into an intelligible or ‘reasonable picture’. Bernard used language generic to the mechanical artist or artificer in the *Didascalicon* to picture this poietic work; while in Alan its most obvious expression was perhaps the robe of *Natura* the poet-philosopher has to keep on weaving, ‘making sense of’ in order to ‘know’.

This set of associations breaks down in Geoffrey. He still uses mechanical artistry to dramatise treatment of surface – like his forebears – but his use of the medic stresses that *ornatus* is to do with authorial *intentio*: the prior knowledge possessed by the student. The physician improves the demeanour of his patients because he knows *in advance* the cause of their illness. Like the physician, the poet should,

First examine the mind of a word, and only then its face; do not trust the adornment of its face alone ... Adorning the face of a word is painting a worthless picture: it is a false thing, a fictitious form [*ficta forma*]. That all may be guided by precept [*ut omnia lege regantur*]: let rich meaning be honoured by rich diction ... If a word is old, be its physician, and give to the old a new vigour ... if you provide this remedy, you will give to the word’s face a new youth.²⁴

Mixed in with the *exemplum* of the medic, Geoffrey alludes here to a *topos* found in Cicero, Quintilian, and Isidore – of the text having a healthy blush. This appeared in the Roman works to imagine the orator able to convey the ‘vigour’ of his *intentio* throughout a long speech.²⁵

²⁴ ‘Verbi prius inspice mentem et demum faciem, cujus ne crede colori ... faciem depingere verbi est pictura luti, res est falsaria, ficta forma ... ut omnia lege regantur, dives honoretur sententia divite verbo ... Si vetus est verbum, sis physicus et veteranum resse novum ... Si conficis istud Antidotum, verbi facies iuvenescere vultum.’ Ibid., 743–769, p. 41. Nims translates *ficta forma* as ‘its beauty fictitious’, which I have substituted for ‘fictitious form’ (a compromise with Ernest Gallo’s translation, ‘faked form’, p. 53)

²⁵ Cicero’s *De Oratore* (3.199) and Quintilian’s, *Institutio oratoria* (8.5.34). This *topos* has been discussed in depth by Carruthers in the *Experience of Beauty*, pp. 181–187. She shows the ideal of the text or speech as a ‘blushed’ face became so well-known that Isidore connected stylistic *venustas* (meaning simply ‘beautiful’) to *venis*, ‘blood’, in the *Etymologiae* 10.277. She also discusses the case of Magister Gregorius, an Englishman in Rome in the first part of the thirteenth century, who records his encounter with a statue of Venus, saying she seems to ‘blush in her

Geoffrey uses it to the same end – to suggest the *ornatus* of the poem should be the *effect* of inner goodness, rather than applied externally, like paint. The medic is recruited as the practitioner of this exemplary, predetermined course of (poetic) treatment.

This passage also implies we should not trust painting, which makes ‘fictitious forms’ (*fictae formae*). The painter, it seems, unlike the medic, is not ‘guided by precept’, *lege regantur*. At this point we can turn to Horace’s *Ars Poetica*, which Geoffrey seems to be drawing on more or less directly.²⁶ This manual – the first guide to the ‘poet’s vocation’ – opens with a famous, jocular invocation of a painter whose ‘piecemeal’ production images what the poet (once he has studied this treatise) will *not* be replicating.²⁷ Horace asks, (rhetorically), ‘If a painter chose to join [*iungere*] a human head to the neck of a horse, and to spread feathers of many a hue over limbs picked up now here now there [*undique collatis*] ... could you, my friends ... refrain from laughing?’²⁸ Some lines later this image is extended with reference to the sculptor, who Horace mocks for working (like the painter) by joining bits part by part (*iungens*). The following anecdote, like the opening, is intended to remind the reader his *own*, poetic craft is a higher calling, demanding a stylistic unity these purely manual activities often fail to achieve:

Near the Aemelian School, at the bottom of the row, there is a craftsman who in bronze will mould nails and imitative waving locks, but is unhappy with the total result [*operis summa*], because he cannot represent the whole [*ponere totum nesciet*]. Now if I wanted to write something, I should no more wish to be like him than to live with my nose askew ... [Thus] choose a subject that is suited to your abilities, you who aspire to be writers; give long thought to what you are capable of achieving, and what is beyond you. A man who chooses a subject within his powers will never be at a loss for words, and his thoughts will be clear and orderly.²⁹

nakedness, a reddish tinge colouring her face’ – apparently drawing on the rhetorical commonplace (at pp. 194–199). For her discussion of rhetorical *intentio* see pp. 167–172.

²⁶ For the renewed attention given to the *Ars Poetica* in Geoffrey’s lifetime see Copeland and Sluiter’s chapter, ‘Prologues to Twelfth-Century School Commentaries on Horace’s *Ars Poetica* ca. 1150’, in their *Medieval Grammar and Rhetoric*, pp. 551–558. Vincent Gillespie suggests Matthew of Vendôme’s *Ars Versificatoria* may have started life as school lectures on Horace’s text, in his essay on the study of the classical authors ‘From the twelfth century to c. 1450’ in *The Cambridge History of Literary Criticism, Volume II: The Middle Ages*, ed. by Alastair Minnis and Ian Johnson, pp. 145–235, at 163.

²⁷ In her introduction to Horace’s *Ars Poetica*, Penelope Murray states he produced ‘his own idiosyncratic picture of the poet’s vocation ... which is unique in the history of criticism’. Penelope Murray, *Classical Literary Criticism* (London 2000; first publ. 1965), p. xlv.

²⁸ ‘Humano capiti cervicem pictor equinam iungere si velit, et varias inducere plumas undique collatis membris ... spectatum admissi risum teneatis, amici?’ Horace, *Ars Poetica* 1–5; Fairclough, pp. 450–451.

²⁹ ‘Aemelium circa ludum faber imus et unguis exprimet et mollis imitabitur aere capillos, infelix operis summa, quia ponere totum nesciet. Hunc ego me, si quid componere curem, non magis esse velim, quam naso vivere parvo ... Sumite materiam vestris, qui scribitis, aequam viribus et versate diu, quid ferre recusent, quid valeant umeri. Cui lecta potenter erit res, nec facundia deseret hunc nec lucidus ordo.’ Ibid. 32–38; Fairclough, pp. 452–453. I have modified Fairclough’s translation of this passage with reference to the (more literal) translation given by Murray in

Because the sculptor fails to give long thought – *versate diu* – to his composition, to ‘intend’ it properly, his total product is indecorous. It lacks an organicity which Horace sees as the *raison d’être* of the poet’s craft. As Penelope Murray states, ‘decorum runs as a leitmotif throughout’ his text.³⁰ ‘He stresses the need for organic unity in any work of art, emphasizing that every part and every aspect of that work must be appropriate to the nature of the work as whole.’³¹ This is, for him, the whole motive and objective of the ‘the skill, craftsmanship, and sheer hard work involved in the composition of poetry.’³²

The influence of his metaphors for ‘skill’ and ‘craftsmanship’ is blatant in Geoffrey, but it is also found in Matthew’s *Ars versificatoria*, where the sculptor is given again as a kind of anti-*exemplum* – unless, that is, he might be thought of as polishing his work, smoothing over the joints which give away its artifice:

Just as, in material things, the material of a statue is crude and stamped with no value until the zealous polishing of the craftsman makes it more pleasing, so too in a poem is the verbal material crude and inelegant until decorated by the artful setting of some *schemata*, tropes, or rhetorical colors.³³

Such excerpts thus signify a new interest in the crafts, based on their power to reaffirm (either positively, or by contradistinction) the continued shaping power of an *a priori* ‘idea’. The final excerpt I want to cite here restates this ideal again, in terms which show Geoffrey’s reorientation of Hugh and the Chartrians’ ideals from a slightly different angle. This excerpt comes from part two of the *Poetria nova*, on the ‘amplification and abbreviation of parts’, and it instructs the student on how to create a ‘hidden comparison’, (corresponding roughly to our ‘simile’).³⁴ A comparison should appear within the text, Geoffrey says,

Classical Literary Criticism, p. 99. Murray’s translation is based, in turn, on that of D. Russell and W. Winterbottom, eds, *Ancient Literary Criticism* (Oxford 1982).

³⁰ Murray, *Classical Literary Criticism*, p. xl.

³¹ Ibid.

³² Ibid., p. xli.

³³ ‘Siquidem, sicut in rebus materialibus materia statue rudis est et nullo precio insignita donec sedulitate artificis melius placeat expolita, similiter in metro verborum materia rudis est et inconcinna donec artificiali appositione alicuius scematis vel tropi sive coloris rethorici depingatur.’ *Ars Versificatoria* 3.2, Munari, p. 166; translation in this case from the excerpts given in Copeland and Sluiter’s *Medieval Grammar and Rhetoric*, p. 568. Copeland and Sluiter note that Matthew is also drawing heavily at this point on book three of Donatus’ *Ars maior* (the *Barbarismus*), and from Isidore of Seville, *Etymologiae* 1.36–7 (at p. 568, n. 53).

³⁴ For the closeness of Geoffrey’s ‘hidden comparison’ to the modern ‘simile’, see Peter Dronke, *The Medieval Poet and His World* (Rome 1984), p. 24.

[As a] marvellously ingrafted transplantation, where something assumes its place so surely in the design [*serie*] as if it were born of the theme itself [*thematē nata*] – yet it is taken from elsewhere, though it seems to be from there ... ; it is a form subtly conjoined [*formula subtilis iuncturae*], there the things joined [*res iunctae*] so unite [*coeunt*] and touch [*contingunt*] as if [*quasi*] they were not touching, as continuous as if [*quasi*] Natura's hand, not that of art, had joined them.³⁵

This description could be said to bring to mind the image of the artificer 'joining and disjoining' nature's parts set out in the *Didascalicon*. It seems possible that Geoffrey is drawing (consciously or not) on this Hugonian *topos*, and its numerous applications by Bernard, John, and Alan of Lille to imagine the 'poietic' practice proper to the trivium. If we take this for granted, it is clear that he also revises its meaning – engendering, through its imagery, a very different picture of the poet's practice, and interaction with nature. In the *Metalogicon*, John of Salisbury, following Hugh and Bernard, used the hierarchical *topos* to describe how the student discerns with his senses and with the 'grasp' of his language, what was 'formed and fashioned by nature's hand'.³⁶ Here that relationship of servility – of 'sense making' – is gone. The acts of 'taking things from elsewhere', conjoining it in a new place, and so on – do not designate the artificer-poet's 'poietic' or interpretive imitation of nature, but imitation in the sense of mimicry. The poet is to make elements 'unite and touch' so continuously that it seems 'as if Natura's hand, not that of art, had joined them', '*quasi non manus artis iunxerit, immo manus Naturae*'.³⁷ An image that had been used to persuade of the sensory labour and 'descent' proper to the trivium, becomes an image for persuading of the poet's *competition* with natural causality. This passage implies that Nature knows her purpose, she can grow her compositions, in a way the poet can himself aspire to if he hones his *preceptive* craft.

In doing so it signals – just as much, if not more so – a rewriting of the metaphorical currency of 'mechanical art' implied by Geoffrey's positive comparisons to the architect and medic (and negative comparisons to the sculptor and painter). It repeats the new emphasis, at play in these analogies, on working 'thought-down' or 'thought-through' and the related vice of piecemeal, purely manual composition (the very principle which drew authors to *mechanica* earlier). The

³⁵ '... insita mirifice transumptio, res ubi caute sic sedet in serie quasi sit de themate nata: Sumpta tamen res est aliunde, sed esse videtur inde ... hic est formula subtilis iuncturae, res ubi iunctae sic coeunt et sic se contingunt quasi non sint contiguae, sed continuae quasi non manus artis iunxerit, immo manus Naturae.' *Poetria nova* 250–263. I cite the translation made by Dronke here, in *The Medieval Poet*, pp. 24–25.

³⁶ Above, p. 81.

³⁷ (Emphases added).

invocation of nature as a kind of ‘standard’ for this preceptive mechanical artistry, also suggests his ‘theory’ of poet-craft may have been founded on more than a mixture of Hugh, the Chartrians, and Horace – and taken in writings on craft, or *techne*, being re-read in northern Europe towards the end of the twelfth century.

II. Aristotle’s view of *techne*

Horace’s depiction of the ‘Art of Poetry’, which dates to around 19 BC, was itself deeply informed by the works of Aristotle: particularly the *Rhetoric* and *Poetics*, both written sometime in the fourth century BC. Some of Geoffrey of Vinsauf’s own ‘Aristotelianism’ is therefore a product of his reading and *imitatio* of Horace. Aristotle’s *Poetics* and *Rhetoric* would not themselves become available to medieval schoolmen until the later thirteenth century.³⁸ At the same time, however, the picture of craft he elucidates in the *Poetria nova* seems to imply a more direct ‘Aristotelianism’, made possible by the recovery of Aristotle’s *Physics*, *Metaphysics*, and *Nicomachean Ethics*, which Geoffrey is likely to have encountered during his schooling in Paris. An engagement with the discussions of craft found in these works would explain his appreciation and augmentation of Horace’s metaphors – and the extent of his deviation from the Chartrians’ poietic interpretation of the mechanical arts.³⁹

So far in this thesis we have considered the domain of craft – and by extension of the mechanical arts – in this latter formulation: under the auspices of *poiesis*, ‘making’. In Plato’s *Timaeus* (which in many ways consolidated pre-existing, pre-Socratic epistemology), craft exemplified a

³⁸ The gradual (and apparently undramatic) reintroduction of the *Poetics* and *Rhetoric* to the West, from the mid-1200s to the fourteenth century, has been discussed by James J. Murphy, ‘Aristotle’s Rhetoric in the Middle Ages’, *Quarterly Journal of Speech* 52, 2 (1966), pp. 109–115.

³⁹ As Christophe Erismann says, the ‘natural writings’ of Aristotle had begun to be translated during the second half of the twelfth century, but entered widespread use only in the period from about 1200. Christophe Erismann, ‘Latin Philosophy to 1200’, in *The Oxford Handbook of Medieval Philosophy*, ed. John Marenbon (Oxford 2012), pp. 167–191. The *Physics* was translated by James of Venice in the middle of the twelfth century; the first four books of the *Metaphysics* were available in what is known as the *Metaphysica Vetustissima*, also ascribed to James of Venice – from the same time, but only became fully available in the Latin West in Michael Scot’s translation (the *Metaphysica Nova*) in the 1220s. The earliest Latin translation of the *Nicomachean Ethics* was the so-called *ethica vetus*, translated anonymously in the twelfth century. Like the *Metaphysics*, the *Ethics* only became the subject of serious study in the universities from the 1230s (the complete new translation was made by Robert Grosseteste). See Russell Friedman, ‘Latin Philosophy 1200–1350’, in *The Oxford Handbook* (as above), pp. 192–219 – who like Erismann says that despite the existence of translations before 1200, it was really ‘in the first fifty years of the thirteenth century that [Aristotle’s] thought begins to be utilised’ (at p. 196). Cary J. Nederman also describes the reintroduction of these specific works in ‘Aristotelian Ethics before the *Nicomachean Ethics*: Alternate Sources of Aristotle’s Concept of Virtue in the Twelfth Century’, *Parergon* 7 (1989), pp. 55–75, at 58.

‘coming to terms’ with nature. It modelled how man thinks, and writes – hence its etymological relationship with what would become our English ‘poetry’.⁴⁰

Aristotle’s conception of craft – the ‘Greek’ conception James Murphy talks about – was built on a new premise.⁴¹ First of all, for Aristotle, often considered the first ‘scientist’, nature was not something to be interpreted in the poietic fashion suggested by the *Timaeus* or the earlier cosmogonic songs. It possessed its own internal logic, which man could take apart and analyse. Instead of regarding natural ‘making’ and human ‘making’ as in some way co-dependent and complementary, Aristotle regarded them as ontologically discrete domains, to be examined soberly, on their own terms. At the same time, he continued to line them up against one another – now in an analytical, rather than *imaginative*, way – to ascertain procedural similarities and differences between man and nature.

This method has been called by David Sedley Aristotle’s ‘craft analogy’ for nature.⁴² Aristotle was fascinated – specifically – by the way in which nature seems always seems to be working towards ‘ends’, or *teloi*. Nature never digresses or makes mistakes: it unfolds in a certain and regular way (think of the blossoming of a tree, or the gestation of a foetus). Thus, the greatest medieval Aristotelian Thomas Aquinas would write, towards the end of the thirteenth century, ‘everything in nature has a certain end, and a fixed rule of size and growth’.⁴³ The procedures of the human crafts, Aristotle thought, likewise tended towards the achievement of definite ‘ends’ (as the carpenter’s process is governed by a goal, or *telos*, to produce a chair). It was this procedural or causal proximity with natural teleology which governed Aristotle’s interest and interrogation of the nature of craft. The latter might not proceed as perfectly as nature does – for the carpenter can easily make mistakes of measurement, and so on – but it is our best and most accessible illustration of the operations apparent in the natural world. As Sedley explains: for Aristotle the ‘causal processes of nature are of a higher teleological order than craft, but craft helps us to make sense of them’.⁴⁴

⁴⁰ See above, Introduction, pp. 7–8.

⁴¹ Above, p. 105.

⁴² David Sedley, *Creationism and its Critics in Antiquity* (Berkeley 2008), pp. 173–177.

⁴³ ‘Manifestum est autem, quod in omnibus quae sunt secundum naturam, est certus terminus, et determinata ratio magnitudinis et augmenti’. Thomas Aquinas, *Sentencia libri De anima* 2.8, 9, ed. by Enrique Alarcón for the Corpus Thomisticum Project (at 80615). Cited and translated by Eco, *Art and Beauty*, p. 78.

⁴⁴ Sedley, *Creationism*, p. 174.

The key discussions of the so-called ‘craft analogy’ can be found in the *Physics* (2.3) and *Metaphysics* (5.2) – both works Geoffrey may himself have studied. In these, Aristotle used the example of sculpture to draw out the ‘four causes’ (*aitia*) at play in nature (to make ‘a rough classification of the causal determinants [*aitia*] of things’).⁴⁵ A statue, he explains, is the outcome of 1) the *material* (bronze) out of which it is made; 2) the *form* which the material receives; 3) the *initiator* of the process of change (the smith); and 4) the *purpose* (or *logos*), ‘that for the sake of which a thing is.’⁴⁶ This is roughly, he said, how the causes ‘come within the range of Nature’.⁴⁷

Yet nature also complicates this fourfold system: often in the natural world the ‘because’ (or causes), which are *distinct* in the craft of sculpting, coincide.⁴⁸ Specifically, natural organisms appear to ‘have the principle of motion [the efficient cause] within themselves’.⁴⁹ For instance, a tree in blossom, or a foetus in the womb, seem to *reason themselves out*: they require no external ‘hand’ to bring them into shape. Furthermore, they make no reference to an external final cause. Nature seems to be ‘aware’ of her *telos* from the outset. She is, in all things, a superior artist, to which the human craftsman can only aspire.

Indeed, Aristotle’s causal comparison of *technē* and nature – in which nature comes out ‘on top’ – led him to privilege, in his discussions of *technē*, those elements or types of craft that best imitate nature’s seamlessly rational ‘making’. As David Summers puts it, for Aristotle ‘the arts imitate nature by adapting forms to ends’.⁵⁰ Here lies a crucial distinction between Aristotle’s view of imitation and the view of imitation put forward in earlier Greek and Platonic works: as Erwin Panofsky puts it, ‘Art [as it was seen by Aristotle] ... does not *imitate* what nature creates, but it *works in the same way as* nature creates, achieving definite ends through definite means, realizing definite forms in definite materials, etc.’⁵¹ Or, otherwise put (for present purposes), for Aristotle art does not imitate nature in a collaborative and improving manner; it follows her in a way that impacts neither party, the two (craftsman and nature) are locked in a kind of dispassionate parallelism.

⁴⁵ Aristotle, *Physics* 2.3 195a9–10, trans. by F.M. Cornford and F. Wicksteed, LCL 228 (Cambridge, MA 1957), pp. 130–131.

⁴⁶ Aristotle, *Metaphysics* 5.2 1013a32–33, ed. by Jonathan Barnes, The Revised Oxford Translation, Bollingen Series LXXI: 2, 2 vols (Princeton 1984), 2: p. 1600.

⁴⁷ Ibid: *Physics* 2.7 198a35; Cornford and Wicksteed, pp. 164–165.

⁴⁸ Ibid, 2.7 198b1–2; pp. 164–165.

⁴⁹ Ibid.

⁵⁰ Summers, *The Judgement of Sense*, p. 237.

⁵¹ Erwin Panofsky, *Idea: A Concept in Art Theory* (New York 1960), p. 42; Panofsky’s own emphases. (Originally published in German as *Idea: Ein Beitrag zur Begriffsgeschichte der alteren Kunsttheorie*, Leipzig 1924).

It is this altered and rationalised view of what constitutes ‘craft’ (the procedural imitation of nature, centring on intellectual foresight) that we find, of course, reflected in the imagery of the *Poetria nova*. We saw earlier how Horace advised against the example of the sculptor – and how Geoffrey after him implied that the painter (also a piecemeal or ‘fictitious’ artist) was less worthy of imitation than those technicians (for example, medics and architects) who, ‘like’ nature, prepare mentally. This favouritism has been established by Aristotle himself. For while he took up the art of sculpting to discriminate the four causes, he explained elsewhere how the exemplary human craftsman or technician will in fact have knowledge of the ‘final cause’ of his chosen activity, bringing him closer to the natural ideal.⁵² At the opening of the *Metaphysics*, he claimed craftsmen of the highest order will ‘know the “why” and the cause’ of their activities.⁵³

We suppose artists to be wiser than men of experience ... ; and this is because the former know the cause, but the latter do not. For men of experience [*empeiria*] know only that the thing is so, but do not know why, while the others know the ‘why’ and the cause. Hence we think that master-workers [*technites*] in each craft are more honourable and know in a truer sense and are wiser than the manual workers [*cheirotechnes*], because they know the causes of things that are done.⁵⁴

Here then, the artist or craftsman is distinguished from the man of experience (*empeiria*). This distinction corresponds, Aristotle suggests, to the distinction between ‘master-workers’ (*technites*), and ‘manual workers’ or ‘mechanics’ (*cheirotechnes*).⁵⁵ The latter are not ‘true’ craftsmen in his eyes. Art, *technē* proper, involves knowledge of *ends*, a *theory* of the activity to be undertaken, like that which nature seems to possess. The *cheirotechnis* or mechanic has only practical familiarity with nature – or what Aristotle calls ‘knowledge of individuals’.⁵⁶

As Richard Parry explains, in Aristotle’s theory of knowledge, ‘a mixed picture of *epistēmē* and *technē* begins to emerge.’⁵⁷ The craftsman is a theoretician, who studies, teaches and *puts into practice* abstract artistic principles. Aristotle often calls the type of knowledge

⁵² Sedley, *Creationism*, p. 177.

⁵³ *Metaphysics* 1.1 981a28–29; Barnes, 2: pp. 1552–1553.

⁵⁴ *Ibid.* 981a25–981b1; Barnes, 2: p. 1553.

⁵⁵ Barnes translates *cheirotechnis* (χειροτέχνης) as ‘mechanic’ at 981b32; Barnes, 2: p. 1553.

⁵⁶ *Ibid.* 981a30–35; Barnes, 2: pp. 1552–1553. *Cheirotechnes* means literally ‘skilled with the hands’ (*chiro-* from *kheir*, ‘hand’).

⁵⁷ Richard Parry, ‘Epistēmē and Technē’, *The Stanford Encyclopaedia of Philosophy* (Fall 2014 Edition), ed. by Edward N. Zalta. URL = <https://plato.stanford.edu/archives/fall2014/entries/episteme-technē/> [accessed 16 July 2018].

possessed by ‘master-workers’ *episteme* (or in Latin, *scientia*). The arts which best fill the criteria for a *technē* are therefore not sculpting and painting (or weaving, metalworking, etc. – which above all demand sensitivity to materials, derived from experience). The hands-on activity of ‘making’, *poiesis*, which involves working with nature’s particulars, no longer qualifies an activity as a craft, an ‘art’, in Aristotle’s epistemology.⁵⁸

Instead, *technē* is typified by those crafts which are learned between the workshop and the lecture room. Unsurprisingly, Aristotle’s chief *exempla* are architecture and medicine. The former of these is, Aristotle says, ‘a reasoned state of capacity to make ... involving a true course of reasoning’.⁵⁹ Likewise, the activity of medicine follows a ‘true course of reasoning’ based in a pre-possessed definition of health.⁶⁰ Both the *technite* of medicine and of architecture can explain his goals: ‘in general it is a sign of the man who knows, that he can teach’.⁶¹

While it was unavailable to Geoffrey and his contemporaries, in the *Rhetoric* Aristotle then made use of these distinctions worked out in his scientific works, modelling the rhetor on the medic because he ‘can instruct or persuade about its own particular subject-matter’, just as the medic is able to persuade or explain ‘about what is healthy and unhealthy’.⁶² As we know, Geoffrey had indirect access to this type of craft imagery through Horace.⁶³ But his own re-articulation of it seems to be born of additional knowledge (not necessarily exhaustive) of Aristotle’s own discussions. His opening passage, describing the architect arranging his material ‘in the inner chamber of the mind’ before acting; his use of the medic as a guide to the generation of *ornatus* from an *a priori* ‘rationale’; and particularly his remarks about nature as a *procedural* model for the poet, which the poet should act ‘as’: all of these seem to reflect a student experimenting with the new epistemological assertions of the *Physics*, *Metaphysics* and *Ethics*.

⁵⁸ I am indebted to Carl Mitcham’s commentary of this point (that for Aristotle, “making” does not fall within the logical structure of *technē*) in his *Thinking Through Technology: the Path between Engineering and Philosophy* (Chicago 1994), p. 122. I add the term ‘art’ here (in inverted commas), since Aristotle’s new conception of ‘craft’ brings it closer to the modern concept of ‘art’ (i.e. rational, ends-oriented skill). In his 1938 study, *The Principles of Art*, Robin George Collingwood argues ‘craft’ needs to reassert its *manual logic* against its partner, ‘art’. He shows the former has been overwritten by the Aristotelian formulation (a point I am also trying to draw out here). Collingwood, *The Principles of Art* (Oxford 1938), pp. 15–36.

⁵⁹ *Nicomachean Ethics* 6.4, 1140a8–10; Barnes, 2: pp. 1799–1800.

⁶⁰ *Metaphysics* 9.2 1094a5–10; Barnes, 2: pp. 1652–1653.

⁶¹ *Metaphysics* 1.1 981b6–12; Barnes, 2: p. 1553. At 7.1 1032b30–1033a5 Aristotle discusses the necessary pre-existence of a thing’s *formula* in the soul of the artist.

⁶² *Rhetoric* 1.2, 1355b26–35; Barnes, 2: p. 2155.

⁶³ Vincent Gillespe talks about ‘Aristotelian readings of Horace’ and ‘Horatian readings of Aristotle’ in the thirteenth century, both of which help us to think about how Geoffrey arrived at his particular poetic theory (in Gillespe’s chapter ‘From the twelfth century’, p. 162.)

They reflect a student navigating those assertions from *within* a more recent medieval tradition, inspired primarily by the *Timaeus*, of drawing on the *artes mechanicae* to dramatise verbal or liberal art as a poietic and cosmological endeavour. In the final part of the chapter, I want to show how Geoffrey's Aristotelian 'updating' of the imagery of his predecessors anticipated a wholly new way of using the *artes mechanicae* – to actually affirm the 'liberal' status of the liberal arts – thus turning on its head the tradition that precipitated it.

III. The 'Liberal' Mechanical Arts and Scholastic *Inventio*

First – before showing how the *artes mechanicae* were used to this 'liberalising' effect after Geoffrey – it is necessary to consider the impact of Aristotle's works on the discussion and 'ranking' of *mechanica* in scholastic encyclopaedias. In the wake of the recovery of both Aristotelian and Arabic thought from the turn of the century, scholars who had depended on the *Didascalicon* in their own education sought to modernise its arrangement of *Scientia* to accord with the new epistemology. The most striking and thorough instance of this is Robert Kilwardby's *De ortu scientiarum*, 'On the Origin and Order of the Sciences', which dates to the 1250s. Robert was a graduate of the new university in Paris, a theologian, and later to become Archbishop of Canterbury. His *De Ortu* is self-consciously modelled on Hugh of Saint-Victor's *Didascalicon* – and he spends considerable time reviewing Hugh's category of *mechanica* for the modern student.⁶⁴

Following Hugh, this category is defined as belonging beneath the liberal arts: the hierarchical symmetry between the two categories – productive and theoretical, in fact first established in *De nuptiis* – is maintained. But the nature of that hierarchical relationship has changed. Kilwardby calls the mechanical arts 'subalternate' to the liberal arts [*omnes mechanicae subalternantur scientiis speculativis*].⁶⁵ Today 'subalternate' is often used synonymously with 'subordinate' – i.e. inferior in quality or status. But in the thirteenth century, it meant something between 'inferior'

⁶⁴ The critical edition, which I cite here, is Robert Kilwardby, *De ortu scientiarum*, ed. by Albert G. Judy (Oxford 1976).

⁶⁵ 'Omnes mechanicae subalternantur scientiis speculativis...similiter architectonica, fabrilis et armatura quoad modum operandi sub geometria sunt ... Similiter, lanificium quoad modum puto esse sub arithmetica et geometria ... Similiter, in aliis mechanicis ubique invenies quod ipsae sint sub aliqua speculativa vel aliquibus.' Robert Kilwardby, *De ortu scientiarum* 43.401 (trans. Whitney, p. 122).

and ‘successive’.⁶⁶ It is still used in modern botany to refer to the lateral veins on a leaf which branch out from the central vein (the midrib).⁶⁷ In the *De ortu*, its use signals a subtle but fundamental modification of the mechanical arts’ earlier (‘subordinate’) position. It implies they are both under *and* ‘alternate’ to the liberal arts. Or rather, they manifest or continue principles belonging to the liberal arts. George Ovitt explains they are ‘a means of applying theory to the solution of specific problems’.⁶⁸ Or in the words of Elspeth Whitney, they constitute the ‘operative or instrumental side of the theoretical sciences’.⁶⁹

This is clarified by Kilwardby’s rhetorical question: whether the carpenter or stonecutter can truly work without the theoretical science of geometry.⁷⁰ Hugh had not, on the whole, been concerned with such questions; they would risk destabilising his neat soteriological system. The stonecutter or carpenter was for Hugh a maker, not a geometer (hence his example could be used to ‘poietic’ – effect). But Kilwardby responds to his self-posed question as though the affirmative answer is obvious: ‘We see, therefore, that the speculative sciences are practical and the practical are speculative’ (‘speculativae sint practicae et practicae speculativae’).⁷¹

Here, one should add, it is not only that the mechanic might perform or ‘demonstrate’ the interior calculations of the liberal artist or theoretician. Kilwardby implies that the arts themselves involve a mixture of liberal and mechanical skill. ‘Ars sine scientia nihil est’ (‘art is nothing without science’, or knowledge of principles), as it was put pithily by the fourteenth-century French architect Jean Mignot.⁷² The same man who calculates, demonstrates; and the same man

⁶⁶ The mechanism of the ‘subalternation of the sciences’ became widespread in scholastic discourse and was elaborated by Robert Grosseteste (who we come to shortly, below, p. 122) and Thomas Aquinas, in both their commentaries on the *Posterior Analytics* (accompanied, in Thomas’ case, by discussions in his commentary on the *Physics* and the opening question to the *Summa Theologiae*). For an overview of this encyclopaedic apparatus through the works of scholastic philosophers, see Steven J. Livesey’s chapter ‘The Subalternation of the Sciences’ in *Theology and Science in the Fourteenth Century: Three Questions on the Unity and Subalternation of the Sciences from John of Reading’s Commentary on the Sentences* (Leiden 1989), pp. 20–53.

⁶⁷ ‘subalternate, adj. and n.’, *OED Online* (Oxford University Press, June 2018) www.oed.com/view/Entry/192443. [accessed 19 July 2018].

⁶⁸ George Ovitt, ‘The Status of the Mechanical Arts’, p. 103. See also: Alfonso Maierù, ‘Robert Kilwardby on the Division of the Sciences’ in *A Companion to the Philosophy of Robert Kilwardby*, ed. by Henrik Lagerlund and Paul Thom (Leiden 2013), pp. 353–390, at 381–384.

⁶⁹ Whitney, ‘Paradise Restored’, p. 82.

⁷⁰ Kilwardby, *De ortu scientiarum*, p. 138.

⁷¹ ‘Videtur ergo quod et speculativae sint practicae et practicae speculativae.’ Ibid.

⁷² This remark is recorded in the proceedings of the chapter of Milan in 1400, in the debate over plans for the cathedral’s construction. It is cited by Binski, who notes its Aristotelian inspiration – in opposition to an earlier reading by James S. Ackerman, who saw it as a declaration of the architect’s Platonism, and belief in the primacy of geometric form. Binski questions ‘... was Mignot in fact stating no more than that *ars* (i.e. the *techné* of *Ethics*, VI.4) must be informed by the demonstrable principles and causes (i.e. *epistémē*) which constitute *scientia* (geometry especially), so being, in effect, a good Aristotelian? ... It seems at least possible that Mignot was appealing to a

who demonstrates, calculates. Importantly for us, Kilwardby ends up implying – in keeping with Aristotle’s *Physics* and *Metaphysics* – that the proper ‘mechanic’ will possess ‘ends’. He will be liberal-minded: a designer, not just a ‘maker’. The genuinely operative *cheirotechnis* is, following Aristotle’s recommendations, nudged out of this more analytic, more integrated view of the arts.

Geoffrey of Vinsauf, writing in the first decades of the 1200s, of course did not have access to this revised view of the *artes mechanicae*. But the imagery of his *Poetria nova* appears to anticipate this ‘subalternate’ way of thinking about the division of the arts. Indeed, Kilwardby’s encyclopaedic classification helps to show how far from the Hugonian classification Geoffrey’s work sits. At the same time, it also allows us to link Geoffrey’s mechanical *exempla* for poetic invention to later mechanical *exempla* in scholastic works – closer in time to Kilwardby’s *De Ortu* – which take these once-lowly *artes* precisely to *assert or confirm* the liberal, theoretical nature of human authorship and invention (in direct contrast to twelfth-century custom).

These later mechanical *exempla* are the subject of a recent essay by Paul Binski. From the mid 1200s, Binski shows, the master-craftsman, specifically the architect, ‘penetrated into scholastic and rhetorical discourse’ to firm up and to dignify the concept of the human *auctor* as an ‘originator’ of form, a demonstrator of intellect.⁷³ Binski’s argument is conceived – in part – as a response to Alastair Minnis’ findings in the *Medieval Theory of Authorship*: that in the course of the thirteenth century (Paris taking a central place), there was a shift towards greater analysis of human *auctoritas*, as commentators looked to Aristotle’s theory of causes to clarify the formation of literary texts.⁷⁴ From around the 1240s, Minnis shows, writers of academic prologues to biblical and other texts drew on the causal system established in the *Physics* and *Metaphysics*, creating a sharper picture of the text as a product of mental ‘ideation’. The new ‘Aristotelian prologue’, as he calls it, would describe the work under discussion as a product of the four *aitiai* we have already encountered: the *causa materialis* (designating the subject matter), *causa formalis* (the shape of the work in the artist’s mind), *causa efficiens* (the execution of the

scholar’s sense of intellectual order in claiming intellectual status for his art. In this sense, his utterance could ultimately bear the stamp of the schools of Paris.’ ‘Working by Words’, p. 40. For James S. Ackerman’s argument, see “‘Ars Sine Scientia Nihil Est’: Gothic Theory of Architecture at the Cathedral of Milan”, *Art Bulletin*, 31 (1949), pp. 84–111.

⁷³ Binski, ‘Working by Words’, p. 20.

⁷⁴ Alastair Minnis, *Medieval Theory of Authorship: Scholastic Literary Attitudes in the Later Middle Ages*, 2nd edn (Philadelphia 1988), (introductory summary p. 5). In Binski’s words, ‘In its Aristotelian form, [scholasticism] achieved a sharpening or intensification of the notion of authorial responsibility.’ Binski, ‘Working by Words’, p. 26.

text) and *causa finalis* (the artist's ultimate 'goal').⁷⁵ The 'Aristotelian prologue' read (and encouraged others to read) the work as the efficient and naturalistic execution of a 'form', conceived in relation to a final cause – and the *auctor*, therefore, as a possessor of the *logos* of his composition, 'put into' practice.⁷⁶

Binski's essay reveals another dimension to this Aristotelian influence in the scholastic conception of the author. He argues that as schoolmen (or university men) looked to Aristotle's causes to sharpen their definition of *auctoritas*, they also looked, for authorial *exempla* or analogues, to the causal procedures of the *technai* – through which Aristotle had (of course) initially defined the causes.⁷⁷ 'It became possible in academic circles', he says, via the analogy to the crafts, 'to think of authors as originators who gave form to something "in their way", who created their own *modus tractandi* or way of treating subject matter.'⁷⁸ The crafts made it possible to emphasise the importance of the *intentio auctoris*, the pre-sensory formation of a work.⁷⁹

In a critical antidote to the prevalent view of Geoffrey – as galvanising earlier medieval ideas of poet-craft, implied in the works of Carruthers and others – Binski draws on the example of the *Poetria nova* as a kind of precursor to this thirteenth-century development.⁸⁰ Like so many scholars before him, he centres on Geoffrey's architectural opening. But unlike previous scholars, he sees this extended image as an early (or pre-mature) example of specifically *scholastic* analogical practice. He notes how through it, poetry is cast as 'a conceptual or "liberal" activity, a thing of the mind or the heart not the body.'⁸¹

⁷⁵ Minnis, *Medieval Theory*, pp. 28–29.

⁷⁶ Ibid.

⁷⁷ (Binski uses the term *exemplum* for the use of the crafts at 'Working by Words', p. 27). It is worth noting that Binski is building on (and proposing a 'realignment' of) the controversial thesis of Erwin Panofsky, in *Gothic Architecture and Scholasticism* (1951): that 'there exists between Gothic architecture and Scholasticism a palpable and hardly accidental concurrence in the purely factual domain of space and time' (p. 2) which resulted in a shared, 'dialectical' *modus operandi* between these two spheres (both the scholastic *summa* and the high gothic cathedral, for example, exhibit a principle of the 'division and subdivision' of parts). Panofsky saw this affinity as a product of the exposure of architects to 'Scholastic point of view'. Binski's essay turns this on its head: 'the steps taken here', he concludes, 'have followed it [the pathway of influence] from the concept of the architect and the architectural to the scholar's cell (if cells they had), and not the other way around. Architecture, or at least the role of the architect, was "good to think with" scholastically and rhetorically, and its impact on doctrines that are now considered 'scholastic' was demonstrably greater than the impact of those doctrines, generally considered, on actual architecture.' Binski, 'Working by Words', p. 28.

⁷⁸ Ibid., p. 22. For the *modus tractandi* (the mode of managing or discussing) see Minnis, *Medieval Theory*, p. 29 and 119–145.

⁷⁹ See Vincent Gillespe on the *intentio auctoris*, 'From the twelfth century', p. 148.

⁸⁰ Implied in the analyses of Carruthers and Cooper, for example (above, p. 107, n. 20).

⁸¹ Binski, 'Working by Words', p. 26.

‘A similar idea to Vinsauf’s is also found’, he suggests, ‘in the pastoral correspondence of that eminent Aristotelian, Robert Grosseteste (d. 1253)’.⁸² In a letter from Grosseteste to his former student, Master Adam Rufus, Grosseteste uses craft to describe the prior possession of forms in intellect:

So imagine in the artist’s mind [*in mente artificis*] the design [*formam*] of the work to be made [*fiendi*], as in the mind of the architect the design [*formam*] and likeness of the house to be built [*fabricandae*]; to this pattern and model he looks only that he may make the house in imitation of it.⁸³

Note the gerunds *fiendi* and *fabricandae*, which make the actual *work* almost hypothetical. This passage takes to an extreme Geoffrey’s preceptive language of the archetype. Here (forty years after the *Poetria nova*) Grosseteste sees (and deploys) the ‘mechanical artist’, the *artifex* – ‘in tune’ with his contemporary Kilwardby – as a conceiver above a demonstrator, as one who might ‘never put his hand to the task’.⁸⁴

Binski does not consider the example of Saint Bonaventure (c. 1217–1274), whose take on the mechanical arts supports his account of the scholastic use of the artificer – and offers a crowning final case study here. Bonaventure was an Italian Franciscan, who studied at the University of Paris and became a Master there in 1257, in company with Thomas Aquinas. Here we are concerned with one of his shortest works, *De reductione artium ad theologiam*, ‘On the Reduction of the Arts to Theology’, dated by its modern editors to between 1253 and 1257.⁸⁵ As its title suggests, the treatise is encyclopaedic in nature, dealing with the arts curriculum. But it has an entirely spiritual aim (unlike Kilwardby’s *De ortu*) of clarifying how the arts shape man’s inner life and encourage the salvation of his soul.

⁸² Ibid.

⁸³ ‘Imaginare itaque in mente artificis, artificii fiendi formam, utpote in mente architecti, formam et similitudinem domus fabricandae, ad quam formam et exemplar solummodo respicit, ut ad eius imitationem domus faciat.’ Otto Lehmann-Brockhaus, *Lateinische Schriftenquellen zur Kunst in England, Wales, und Schottland vom Jahre 901 bis zum Jahre 1307*, 5 vols (Munich 1956), 3: p. 6.

⁸⁴ Binski also cites the later thirteenth-century case of Nicholas de Biard (d.1261), a mendicant in Paris, who compared clerics to architects, who ‘say to the others “Here’s where to cut it for me”, and yet they themselves do not work [*nihil laborant*]’; or rather, they ‘work by words alone’. (‘... aliis dicunt: *Par ci me le taille*, et nihil laborant’; ‘Operantur aliqui solo verbo.’) ‘Working by Words’, p. 23. The text comes from Paris Bib. Nat. MS lat. 16490 (fol. 30) and was ascribed to Biard by Leopold Delisle, *Inventaire des manuscrits de la Sorbonne conservés à la Bibliothèque Impériale* (Paris 1870), 62, nos 15,176–16,718 (Binski, p. 45, n. 41).

⁸⁵ ‘De reductione artium ad theologiam’, in *Doctoris seraphici s. Bonaventurae...opera omnia*, 10 vols (Quaracchi 1890), 5: pp. 317–325.

Like Kilwardby, though in stronger terms, Bonaventure confesses his debt to Hugh of Saint-Victor: ‘Hugo vero omnia haec’ he says: ‘Hugh did it all’.⁸⁶ Writing in the middle of the thirteenth century in Paris, Bonaventure was familiar with much of the Aristotelian corpus, but he was also deeply nostalgic for the ascetic vision of the Victorines, and his treatise is in many ways an attempt to restress, in the fashion of the *Didascalicon*, how divine wisdom is accessible only through a complete education in the arts. It is this combination of old-fashioned, Hugonian ambition, mixed with – or rendered through the lens of – Aristotle’s science, which makes the work illuminating in the present context.

The treatise opens with a statement of the manifold lights which emanate from the Father of Lights, *patre luminum*.⁸⁷ The lowest of these lights is that of ‘mechanical art’, *lumen artis mechanicae*. Taking his lead from Hugh, Bonaventure explains that mechanical art is ‘servile and of a lower nature than philosophical knowledge’.⁸⁸ But he also wants to defend its importance in the scheme of human knowledge. For Hugh, as we have seen, it was precisely these arts’ servility – their dealing with ‘the necessity of this life’ – that authorised their inclusion in the human philosophical and spiritual project. They rallied the senses in imitation, I have suggested, envisaging the soul’s ability and responsibility to (poietically) ‘make sense’ of its earthly existence. In his treatise of over a century hence, Bonaventure construes a very different defence:

If we may consider the artistic process, we will understand. For an artefact proceeds from the artificer [*exit ab artifice*] according to a similitude existing in his mind [*in mente*]; this pattern or model the artificer plans [*excogitat*] carefully before he produces [*antequam producat*] and then he produces as he has predetermined [*sicut disposuit*].⁸⁹

Mechanical art is characterised in Aristotelian and Kilwardbian terms, as a possession of form: ‘artifex excogitat antequam producat’, ‘the artificer plans before he produces’. Bonaventure uses the term *excogitare* for this ‘planning’ – the same verb Eriugena used in his ninth-century commentary to define the mechanical arts as arising from ‘human devising’ (*excogitatione humana*).

⁸⁶ Bonaventure, *De reductione* 5. I have used the IntraText Edition (copyright Éulogos 2007), IntraText Digital Library http://www.intratext.com/IXT/LAT0918/_P1.HTM [accessed 19 July 2018]. I cite the translation available on the University of Virginia’s College at Wise Online Library: <http://people.uvawise.edu/philosophy/phil205/Bonaventure.html> [accessed 19 July 2018].

⁸⁷ *De reductione* 1.

⁸⁸ ‘... quia quodam modo servilis est et degenerat a cognitione philosophiae.’ Ibid. 2.

⁸⁹ ‘Si consideremus egressum, videmibus. Quod effectus artificialis exit ab artifice, mediante similitudine existente in mente; per quam Artifex excogitat antequam producat, inde producit, sicut disposuit.’ Ibid. 12.

In Eriugena's commentary, this term – taken from Cicero's definition of eloquence in the *De Inventione* – implied the (*ancillae*) mechanical arts were exemplary of the 'making sense' of nature, the *contrivance* of perceptions into ideas – required in the approach to wisdom.⁹⁰ Here in Bonaventure, *excogitare* has a more straightforward 'Ciceronian-Aristotelian' meaning.⁹¹ The earlier medieval definition of the mechanical arts has undergone an internal transformation which Bonaventure would not even register: for him their belonging to 'human devising' demonstrates not their *poietic* orientation, and beginning in sense, but their intellectual orientation, and *ending* in (or descent to) sense.

It is this intellectual-formal procedure of mechanical art that furnishes it for inclusion in the sapiential scheme. Their inclusion is authorised because it directly mirrors or imitates the procedure of the higher arts: as in the *artes mechanicae*, for example, 'speech signifies a mental concept ... [which] assumes the form of the voice, and clothed therein, the intelligible word becomes sensible and is heard without.'⁹² This closely echoes, and may even be derived from, the language of Geoffrey's opening: 'let poetic art come forward to clothe the matter with words'. Bonaventure seems almost to have taken apart, analysed, and repurposed Geoffrey's architectural analogy to serve as an epistemological defence of craft. He goes a dramatic step further, though. As we climb through the lights, we find that the mechanical arts exemplify not only trivial invention, but the *preceptive invention* of the divine wisdom itself. For in a 'like manner', *hunc modum*, to the process of the artificer, Bonaventure says,

Understand that no creature has proceeded from the Most High Creator except through the Eternal Word, "in Whom He ordered all things," and by which Word he produced creatures bearing not only the nature of His vestige but the nature of His image ... Therefore, considering the illumination of mechanical art as regards to the production of the work, we shall see therein the Word begotten and made incarnate, that is, the Divinity and the Humanity and the integrity of all faith.⁹³

⁹⁰ This supposition was indebted to Summers' analysis of *excogitatio* in *The Judgement of Sense* at pp. 244–245 and 198–199 (see above, pp. 34–35).

⁹¹ Above (p. 117, n. 63) I cited Gillespie's helpful specification of 'Aristotelian readings of Horace' and 'Horatian readings of Aristotle'. One can also talk, I think, about 'Aristotelian readings of Cicero' versus 'Platonic readings of Cicero', or 'Timaeon readings of Cicero'. Bonaventure's interpretation of *excogitatio* suggests the former kind of reading, while Eriugena's take on this term (along with Hugh, Bernard, and Alan's) signalled the latter.

⁹² 'Sermo significat mentis conceptum ... induit formam vocis, et verbum intelligibile mediante illo indumento fit sensibile et auditur exterius.' *De reductione* 16.

⁹³ 'Per hunc modum intellige, quod a summo Opifice nulla creatura processit nisi per Verbum aeternum, "in quo omnia disposuit", et per quod produxit non solum creaturas habentes rationem vestigi, sed etiam imagines ... Considerantes igitur illuminationem artis mechanicae quantum ad operis egressum, intuebimur ibi Verbum generatum et incarnatum, id est Divinitatem et humanitatem et totius fidei integritatem.' Ibid. 12.

While this extraordinary argument is beyond the remit of Binski's essay, it has received persuasive analysis from Mary Carruthers – whose comments we can turn to in conclusion. She describes (and summarises) the above passage as:

Bonaventure's remarkable justification for the intellectual value of mechanical art. For in making human artefacts, we can understand something true about the generation and Incarnation of Christ, and the living form and union of God and the soul. The process of human artistic creation, in Bonaventure's analysis is a spiritual generation of a kind, and its realization also a kind of incarnation.⁹⁴

As Bonaventure explains and Carruthers encapsulates, the mechanical arts involve the 'descent of a design into materials' found not only in the higher arts, but in the incarnation itself. If we look to the production of an artefact, 'we shall see therein', Bonaventure says, 'the Word begotten and made incarnate'. Indeed, Carruthers suggests that 'in a certain way, the Incarnation itself could be seen as a feat of *trompe l'œil* artistry.'⁹⁵ The artificer – because he mirrors the preceptive art of the divine – experiences a kind of insight or understanding into higher truths, belied by the apparently 'servile' reputation of *artis mechanicae*. By forging this analogy between human art and incarnation, Carruthers says, Bonaventure 'offers a remarkable justification for the intellectual value of mechanical art' – unlike anything in the earlier (and perhaps, later) Middle Ages.

This brings us to our conclusion proper: for Carruthers' claim is incontestable. Bonaventure does attribute unprecedented 'intellectual value' to mechanical art. *De reductione* seems to offer ultimate validation and promotion of the mechanical arts as a means to wisdom – liberating them from their bottommost position as merely physical activities in the twelfth-century *Didascalicon*.

However, in the course of this Bonaventuran 'liberation', the mechanical arts have also lost a certain, if not 'intellectual', then *imaginative* value – the value they possessed in the earlier culture of the schools. In the pre-Aristotelian, *paideic* world of Eriugena, Hugh, Bernard, and Alan, the mechanical arts were also seen to exemplify the human discovery of wisdom. But this was on the basis of what is *unique* to them: making, *poiesis*, not on the basis of what they share or take

⁹⁴ Carruthers, *The Experience of Beauty*, p. 202.

⁹⁵ *Ibid.*, p. 203.

from ‘theory’, *episteme*. They proclaimed the epistemological integrity *of the senses* and imagination: guiding the soul’s *upward* transformation of perception *into* understanding.

The thirteenth-century efficacy of the mechanical arts discussed in the last part of this chapter needs to be understood, I would argue, as a reversal of this rationale, its successor, rather than as definitive of the ‘value’ placed on craft in the medieval era. Geoffrey of Vinsauf – with his dual reliance on the cosmologists, and on the ‘preceptive’ view of *techné* conveyed via Horace and Aristotle – is uniquely revealing of this historical variation and transition. He bridges the traditions of *mechanica* as an asceticising lens on the whole arts curriculum, and *mechanica* as a means of intellectualising specific arts, of confirming their ‘liberal’ status.

We may be grateful for the ‘modern’ picture of the artificer as a thinker, as a figure of *disegno* even, forged in his *exempla*, and in Bonaventure’s defence of mechanical art. But we should be alert, I would argue, to his historical situation and evolution. In the scheme of the Middle Ages, he is a late arrival. Behind him lies an earlier medieval (and much more ancient) figure of the *thinker-as-artificer*, the liberal artist as a ‘maker’ or *poietes*, dignified not because he knows more than the material, but because he knows through and within the *silva* of his experience.

Conclusion

A manuscript dating from the fifteenth century, now in Cambridge University Library, contains a text, written in 1462, known as *Les Douze Dames de Rhétorique*.¹ The text divides the procedures of rhetoric among twelve personifications of courtly women, or *dames*, who each in turn describes her special role in the process of rhetorical composition.² The manuscript (c. 1467) includes an iconographical cycle to accompany those speeches (*enseignes*), which shows each of the women practising what she preaches.³ One of these personifications is *Deduccion Loable*, or ‘Praiseworthy Composition’. Her role, as she describes it, is to ‘seek firm foundations and products that will not give way, the ends and projections of which are of one kind and of identical appearance.’⁴ She then arranges her ‘decorations’, she says, ‘until I arrive, after much hard work [*labeurs dures*], at the goal I have formed in my mind [*la fin comprise en mon corage*].’⁵

In the accompanying iconography, this *dame* is shown, in marvellous detail, as an architect at work on a building (figure 16). She sits in a study or workshop (or a mixture of the two), surrounded by timbers, two unfinished timber-frames through the window behind her. Her mallet lies on the ground to her right. In her left hand are a set-square and compass, while she raises her right hand to her head, contemplating (what would seem to be) a set of written instructions in the open book at her feet. A further book lies open on the table to her left, surrounded by flowers – perhaps signifying the rhetorical *colores* of her trade.

¹ The fable is found in the correspondence of three Burgundian intellectuals: Georges Chastellain, Jean Robertet, and Jean de Montferrant of Burgey. Its history is outlined by David Cowling, ‘Verbal and Visual Metaphors in the Cambridge Manuscript of the *Douze Dames de Rhétorique* (1463)’, *Journal of the Early Book Society* 4, ed. by Martha W. Driver (2000), pp. 94–118; and Cynthia Brown, ‘A Late Medieval Cultural Artifact: The Twelve Ladies of Rhetoric (*Les douze dames de rhétorique*)’, *Allegorica: A Journal of Medieval and Renaissance Literature* 16 (1995), pp. 73–105. The Cambridge manuscript (Nn.3.2) is the best quality of a total of nine manuscripts which contain the text (outlined by Cowling and Brown). See also the online catalogue for Cambridge University Library MS Nn.3.2: <https://cudl.lib.cam.ac.uk/> (where a complete bibliography is also provided).

² The *dames* are given names such as *Gravité de Sens* (‘Solemn Sense’), *Vielle Acquisition* (‘Old Acquisition’), *Multiforme Richesse* (‘Manifold Richness’), *Florie Mémoire* (‘Flourishing Memory’). For the full ‘cast’ see references in previous note.

³ The identity of the artist or workshop is unknown, although the manuscript seems to have been produced in Flanders (before 1468) for the court of Burgundy (where *Les Douze Dames* was written). Cowling, ‘Verbal and Visual Metaphors’, p. 95.

⁴ ‘... Là où par rigles et mesures j’observe poins, lieux, furnitures, formes, manieres et jointures daisans à contigue ancrage, fondations je quiers segures, productions non deffectures, et dont les fins et pourgectures sont d’un estre et d’un acoutrage ...’. Translated by Cowling, ‘Verbal and Visual Metaphors’, pp. 108–109 (MS fols 36v–37r).

⁵ ‘... et là j’assortis mes parures, mes fleurs, mes couleurs, mes verdure, jusqu’à partaindre en labeurs dures la fin comprise en mon corage.’ Ibid.

The props of architecture create a mindscape; a visual allegory of the process of ‘deduction’ as it applies to rhetoric. The timber-frames in the background are to be read as the *dame*’s ‘goal’, it seems: they stand for the end or *telos* she is conceiving (on the basis of her instructions) in the foreground. The pieces of wood at her feet are the ‘particular’ materials which lack arrangement without that forethought. Perhaps she has tried to compose them too hastily, and had to ‘defer’ her hand. Or perhaps they have been provided by a manual operative, a *cheirotechnes* working under her direction. Her next step, we sense, will be to pick these odd bits up and fit them together with greater purpose, towards the end, *la fin*, that she has ‘formed in her mind’ (‘comprise en [son] corage’).

The image has been discussed by Mary Carruthers. She notes: ‘the figure is shown not yet working manually but planning, her finger thoughtfully to her head. She has stopped to previsualize her constructions, to plan and then to execute.’⁶ David Cowling, also the translator of *Les Douze Dames*, concurs: ‘the pensive expression of the lady appears to depict the effort of concentration required to turn into a reality the mental image of a work in progress’.⁷ For Carruthers, and for Cowling, *Deduccion Loable* is a perfect expression of the medieval analogy between craft and verbal art. For them it proves, among other things, the durability of the picture of the poet-craftsman or poet-designer put forward by Geoffrey of Vinsauf in his *Poetria nova*, shaping his work in his mind before he gives it any material form, ‘fashioning it mentally before doing so materially’.⁸ ‘Praiseworthy composition’, Carruthers adds, can be seen ‘heeding the advice of Geoffrey of Vinsauf’.⁹ Likewise, Cowling notes that the preceptive process *Deduccion* enacts is ‘a process evoked most famously in Geoffrey of Vinsauf’s *Poetria nova*’.¹⁰ By extension, this image can be seen to capture the dynamic of the craft or ‘mechanical’ metaphors of thirteenth-century scholastics Robert Grosseteste, and particularly Saint Bonaventure – themselves ‘heeding’ the advice of Geoffrey.

This image, however, shows us only a particular iteration in the metaphorical relationship between craft and verbal composition in the Middle Ages. Contrast it with the figures for verbal art – Donatus, Aristotle, and Cicero – on the west façade of Chartres Cathedral (figures 13, 14,

⁶ Carruthers, ‘The Concept of *Ductus*’, p. 205.

⁷ Cowling, ‘Verbal and Visual Metaphors’, p. 101.

⁸ Carruthers, *The Experience of Beauty*, p. 204 (cited above, Chapter Four, p. 108, n. 23).

⁹ Carruthers, ‘The Concept of *Ductus*’, p. 205.

¹⁰ Cowling, ‘Verbal and Visual Metaphors’, p. 101.

and 17), finished between 1145 and 1150. Found in the archivolts of the southern portal, each of these figures is positioned beneath a traditional female personification of their discipline: Donatus is the nonpareil of Grammar; Aristotle of Dialectic; and Cicero of Rhetoric.¹¹ These men are shown hunched over their writing tablets, eyes concentrated downward, hands set busily to some stage in the task of composition. Behind Donatus and Aristotle a supply of reed pens is racked; Aristotle's also holds what looks like a blotting sponge. These figures (along with mathematicians Boethius, Euclid, Pythagoras and Ptolemy) are usually described as the 'authorities' of the Arts personified above them.¹² Here they are also the practitioners, the 'artisans' of the Liberal Arts. Alan of Lille, who would have known this portal, chose Donatus for the decoration of his chariot, calling him *artifex Grammaticae*.¹³ In the *Anticlaudianus*, Donatus exemplified the artisanry, the 'mechanical art' of Alan's personification of Grammar, her crafting of *materia* into the beam to support the axle.

At Chartres, we find none of those accoutrements of 'mechanical art' shown in the image of *Deduction Loable* – or described by Alan of Lille in his allegories. The *artifices* are shown at work on texts – not on buildings or at a forge. But like Donatus on the chariot, they can be seen to behave 'mechanically'; to present liberal art in a 'mechanical' light or disposition. They are the doers and makers of philosophy, who offer a caveat to the visitor, showing how the revered *Artes Liberales* above them actually come alive in (and cultivate) the soul: through active, productive study.¹⁴ Arranged around the archivolts, as a 'gloss' almost, they can be seen to belong to a twelfth-century, peculiarly Chartrian tradition, of concentrating on and representing the 'mechanical psychology' proper to the liberal arts – their basis in *making*.

The figure of *Deduction Loable* is the more obvious 'mechanical artist', holding the tools of the architect, preparing to set to work on her timber frames. But (following the *enseigne*) it must also be said that this image depicts 'mechanical art' *behaving liberally*. This visual metaphor or allegory requires that the architect thinks: that he (or she) possesses knowledge, to which she

¹¹ This selection – already mentioned in Chapter Three – of course indicates the importance of Aristotle as the authority on dialectic before his natural scientific works were reintroduced at the end of the twelfth century (and he became known not only as the father of dialectic but 'The Philosopher').

¹² For example, by John W. Baldwin, *The Scholastic Culture of the Middle Ages, 1000-1300* (Long Grove, IL 1971), p. 113. (As in Chapter Three, I capitalise the Arts when wanting to refer strictly to the personifications).

¹³ Alan of Lille, *Anticlaudianus* 2.477-484; Wetherbee, pp. 292-293 (cited above, pp. 93).

¹⁴ A more extended analysis of the 'artifices' within the portal scheme might address their relation to the figures on the tympanum – including what was known as the *Sedes Sapientiae*, 'Seat of Wisdom', of Virgin and Child. The Arts on the archivolts – their personifications and practitioners – can be seen 'working towards' this visual 'goal'.

subjects the material (tellingly consigned to the floor in the image). One could argue – in fact – that this image asserts the rhetorical and ‘liberal’ character of craft and the craftsman, just as much (if not *more than*) it asserts the ‘mechanical’ character or ‘craft’ of the rhetorician.

The Chartres portal points to an earlier understanding of the ‘rapport’ between liberal and mechanical – missing from the studies of Carruthers and Cowling – but which forms an important preface to the picture of verbal craft or ‘intellectual craft’ they elucidate. At Chartres, the *artifices* of Donatus, Aristotle, and others, concentrated in study, are the *exempla* for their personified counterparts: our eye moves *from* the worker to the abstraction, rather than from ‘thinking’ to ‘doing’ (as it does with *Deduction*). This portal exemplifies a tradition – that fed into to the ‘Vinsaufian’ tradition, and indirectly informed works like *Les Douze Dames* – in which craft, or ‘mechanical art’, was understood as a kind of *verso* to the liberal: a way of *re-imagining* and *re-setting* the student’s understanding of his task, to ‘make’ or ‘devise’ wisdom, not simply to obtain or possess it.

* * *

Thus far in medieval studies, the *artes mechanicae* have been thought to play a rather unassuming role in the intellectual culture of the Middle Ages. Beyond the cursory references of Carruthers and Binski, who have raised them in relation to scholastic ideas about verbal craft, they have been considered, by and large, the property of scholars working on the history of medieval science, technology, and medieval ‘systems of knowledge’. For historians of medieval literature and art, the term ‘mechanical arts’ has tended to suggest the parallel category to the famous liberal arts. But it has not, to date, lent itself obviously to the study of the medieval imagination, or to what Jacques le Goff called ‘the history of conscience’.¹⁵

This thesis has tried to enlarge our view of the mechanical arts and their place in medieval thought; to show they belong just as much to the history of imagination, or ‘conscience’, and the sources of literature and art, as they do to histories of medieval science and technology. This might have been ventured in a number of other ways. The Middle Ages seem not to have had, for example, a fixed and repeated ‘iconography’ of the mechanical arts. But one might fruitfully

¹⁵ Jacques Le Goff, *The Medieval Imagination*, trans. by Arthur Goldhammer (Chicago 1988), p. 5. (Originally published as *L’Imaginaire médiéval*, Paris 1985).

have sought out depictions of the seven *artes mechanicae* defined by Hugh in contemporaneous visual arts and/or texts. Such a project would have its own unique set of outcomes for our appreciation of these *artes*, beyond the traditional perspective provided by historians of science and technology, and may well be the subject of a future art-historical or literary study.

I have taken an approach that is, in many ways, less straightforward. I have not gathered together examples and illustrations of the *artes mechanicae*. Rather, I have tried to understand in greater depth what was meant by the ‘mechanical arts’ or ‘the mechanical’ in the wider philosophy of the French schools. While these arts formed a category in medieval ‘systems of knowledge’, I have argued, they can also be examined in the context of a more imaginative kind of medieval encyclopaedism: one which considered the parts of these established ‘systems’ in their metaphorical or psychological relations, and not simply their hierarchical relations. The *artes mechanicae* designated seven individual activities in the *Didascalicon*; but ‘mechanical art’ could also be taken as a *type* of knowledge, the knowledge practiced by the artificer (of all and any of the ‘seven’ arts). This type of knowledge presented a mirror to the liberal (especially trivial) arts. It was used at times as an exhortation, at times as an admonishment, to the higher arts, that they should behave productively, poetically.

My exploration of this metaphorical ‘side’ to the mechanical arts has focussed on a necessarily limited number of sources: but sources which are known to medievalists as some of the most authoritative and expressive of the *mentalité* of the medieval schools prior to the rise of universities. The ‘family’ of works which form the subject of my first three chapters all originated from centres between the Île de France and the Loire Valley, and in the years between the 1120s and 1180s. By far the most familiar of the authors I consider, at least for historians of the mechanical arts, is Hugh of Saint-Victor himself: the first medieval writer to ‘approve’ of *mechanica* as a component of *Scientia*. Winthrop Wetherbee – whose extensive knowledge of the twelfth century has been called on throughout this thesis – noted the common temptation to identify a ‘Promethean strain’ in Hugh’s inclusion of the mechanical arts: that ‘*humanisme intégral* that views all human skills as means to redemption.’¹⁶

Hugh has his ‘Promethean’ moments: his catalogues of the procedures and tools of the mechanical arts evince an awareness of, and enthusiasm for, contemporary crafts and

¹⁶ Wetherbee, ‘Philosophy, Cosmology’, p. 23.

technologies, the continuity of ancient methods, and the improvement of those methods by medieval practitioners. But he also invokes mechanical art to elucidate larger issues about the origins, purpose, and practice of philosophy as a whole. Hadot suggested in his *Veil of Isis* that before ‘mechanics’ came to be thought of as means by which man intervenes in nature, harnessing it to his own ends (the ‘Promethean attitude’) – mechanics or mechanical art was considered as a way of visualising the processes of thought and imagination; as part of a broadly *poetic* approach to nature. Hadot designates this the ‘Orphic’ understanding of mechanics. And it is this (essentially ancient Greek, or pre-Socratic) understanding that I think plays out – beyond the ‘catalogues’ of the mechanical arts – in Hugh’s discussion. Partly as a result of his sensitivity to Eriugena’s original positioning of the arts, in the union of wisdom and eloquence, and partly as a result of his dependence on the myth of the *Timeaus*, Hugh’s vision of the *artes mechanicae* can be seen to embrace craft as an epistemological model, a poetic and poietic thing. Hugh categorises the mechanical arts as a *part* of philosophy; but he also considers them an ‘image’, I have argued, a way of visualising the ‘practical-poietic’ psychology required *for* philosophy to make us *cultus*.

This imaginative, ‘Orphic’ perspective on *mechanica*, which runs through and underneath the more literal encyclopaedic perspective of the *Didascalicon*, presented an allegorical opportunity for the wholly ‘imaginative’ and poetic encyclopaedists of Chartres: Bernard Silvestris and Alan of Lille. I have striven to show that these authors, often positioned in an antagonistic relationship to Hugh (wary of the poetic ‘hodgepodge’), can also be seen – with respect to *mechanica* – as engaged in a sustained dialogue with him. In his *Cosmographia*, it is possible to see Bernard (also a commentator on the *De nuptiis*) privileging the ‘mechanical’ over the ‘liberal’: or the mechanical as the active, allegorical embodiment of the liberal. The ‘enactment’ of philosophy by the artificers *Natura*, *Noys*, and *Physis* entails a reversal or amalgamation of the established categories of knowledge, with the mechanical envisaging the *behaviour* of the liberal soul – a reversal that could be seen to make explicit the implications of Hugh’s discussion twenty years earlier.

The same could be said of Alan of Lille’s *De Planctu* and *Anticlaudianus*: well-known ‘successors’ to the *Cosmographia*. In these works, the exemplary potential of *mechanica*, as the poietic ‘face’ of the liberal arts, arguably comes into force as a means of cautioning students not to ignore their cosmic, ‘Orphic’ duty to nature (as set out in the *Cosmographia* and *Didascalicon*).

The image of the chariot sees the Liberal Arts in the likeness of their ‘mirror’ category, joining and disjoining matter – I suggested – to present a more starkly apophatic lesson for dialecticians about the confinement of divine knowledge *to making*, *to* the soul’s sense-work.

In my discussion of Alan, and again in the first part of this conclusion, I raised the example of the famous Chartres portal – whose arrangement of the Liberal Arts, ‘glossed’ by *artifices*, I think echoes the ‘mechanical’ characterisations of the liberal arts given, particularly in the *Anticlaudianus* (but also in the *Cosmographia* and *De Planctu* – and to some extent in the *Didascalicon*). The arrangement of the portal also helps as a kind of visual gauge for the twelfth-century tradition, as against the new thirteenth-century dispensation.

Geoffrey of Vinsauf’s *Poetria nova* has been considered, as in the work of Mary Carruthers and David Cowling, as a *summa* in medieval thinking about poet-craft. Completed by 1215, it is the first medieval text to have used the crafts or ‘mechanical arts’ (as Carruthers suggests) to dignify the *auctor* as a man of design, of foresight. But this work also betrays, I would venture, the influence – and thus a *reworking* – of the allegorists’ use of the mechanical arts. The image of *Deduccion Loable*, besides demonstrating the endurance of Geoffrey’s vision of the writer’s ‘craft’, makes vivid – I think – just how radical this reworking was. *Deduccion* strikes a chord with the modern viewer: her image articulates an almost familiar (might we say democratic?) conception of the shared processes of writer and builder, thinker and maker, and a propinquity between the ‘academic’ and the ‘vocational’. A book published in 2017 by Paola Bertucci suggests that this notional affinity between the mechanical and liberal artist obtained well beyond the fifteenth century.¹⁷ When *philosophes* of the French Enlightenment discussed the mechanical artist, they emphasised – again – that he *worked liberally*. It was on this assumption, Bertucci shows, that his work might be compared with that of the liberal artist: he ‘already’ shared in and illustrated the *esprit philosophique*.¹⁸

¹⁷ Paola Bertucci, *Artisanal Enlightenment: Science and the Mechanical Arts in Old Regime France* (New Haven 2017).

¹⁸ Diderot, Bertucci says, reiterated ‘the predominance of theoretical learning over practical activity [in the mechanical arts]. This was a *philosophe*’s point of view.’ (p. 5). The term *esprit philosophique* is discussed at p. 10. While Bertucci’s introduction deals with the *philosophe*’s view of the mechanical arts, (pp. 1–30), the book as a whole ‘makes a radical change of historical protagonists’, considering how eighteenth-century *artistes* regarded themselves, and their own relation to ‘philosophers, savants, and routine-bound craftsmen’. <https://yalebooks.yale.edu/book/97803009227413/artisanal-enlightenment> [accessed October 2018].

How far conceptions of the craftsman in this later period can be considered continuous with that found in *Deduccion* – or in the *Poetria nova* – is a subject for another enquiry. My concern here has not been with the longevity of Geoffrey’s model – but to show *how* Geoffrey’s model, his ‘intellectual justification’ of craft, was not ubiquitous or even pre-eminent in the Middle Ages. It was preceded, it would appear, by an earlier, poietic recruitment of the *artes mechanicae* – epitomised by the Chartres portal – to *reduce* the liberal arts to ‘making’, the scholar to his senses. In this earlier dispensation it was *the mechanical art*, the *making itself* that had the metaphorical upper hand. The work of the artificer was not lifted – via association with the liberal – to intellectual status. The intellectual status *of the liberal* was shown to depend on practice, making, *poiesis*: just as the *artifices* on the door at Chartres shoulder, and at the same time elevate, the Liberal maidens above them.

The mechanical arts’ poietic valence in the pedagogical literature of the twelfth century – the lesson they extended the student to ‘make sense’ of his experience, to re-cognise nature in his soul – is remote from our thinking today. Perhaps this is why – setting aside the question of the *artes mechanicae* for a moment – so little has been written on the importance of ancient *poiesis* as a model in medieval pedagogy. It is only more recently, and haltingly, that studies have emerged which posit a ‘poetics’ of medieval education.¹⁹ This development in medieval studies should – I think – be encouraged. Pierre Hadot suggests in the *Veil of Isis* – a great inspiration for the present work – that the poetic or ‘Orphic’ attitude, rooted in Pre-Socratism, does find its more recent proponents: Goethe, but also Wittgenstein, and Merleau-Ponty – the latter drew the conclusion in his *Praise of Philosophy* (1953) that ‘philosophy is relearning how to see the world’.²⁰ These are figures beyond the scope of my discussion. But their own turns to ‘Orphism’, in a modern age, advises the timeliness – perhaps – of an historical turn to *poiesis* today.

Here, I have been able to give only an outline of *poiesis* as it mattered to medieval schoolmen. I have arrived at this theme, or model, by following the rather ‘unassuming’ category of the *artes mechanicae*. According to the hierarchies of the page, these were a parallel category to the liberal arts – to be shuffled about by encyclopaedists and classifiers of knowledge. But to think of them simply as a classification is to forget that the word *mechanica* also evoked something to the

¹⁹ For example, by Catherine Brown; M. B. Pranger; and Phil Knox et al. (above, pp. 6–7, notes 30–33).

²⁰ Cited by Hadot, *The Veil of Isis*, p. 313 (and pp. 300–315); Merleau-Ponty repeated this conclusion in ‘What is Phenomenology?’, in *The Essential Writings of Merleau-Ponty*, ed. by Alden L. Fisher (New York 1969), pp. 27–44, at 42.

medieval mind that was super-literal, super-categorical. There is a secret history of the mechanical arts – an evocative history – that lies behind their conventional history. It is this secret history of the mechanical arts, the history of their associative power, that I have tried to uncover here. Beyond the hierarchies of the page, the mechanical arts were felt to be a guide, a lens through which to look upon the human condition as a whole. They showed the student then – and they show us now – that his philosophy, though it might look like a list of disciplines and doctrines, to be learned and scaled, required something more active and imaginative; that philosophy was ‘relearning how to see the world’ itself.



Figure 1. The major French Schools in the first half of the twelfth century.

Map taken from Whitney S. Stoddard's *Art and Architecture in Medieval France* (New York 1972), showing key monuments and pilgrimage routes to Santiago da Compostela, c. 1000-1130s.



Figure 2. Orpheus from a homily, *In sancta lumina*, of Gregory Nazianzen, Paris, Bibliothèque Nationale, Gr. Coislin 239, fol. 122v (c. eleventh century).

The image is included in John Block Friedman's *Orpheus in the Middle Ages* (Cambridge, UK 1970), pp. 152–53.



Figure 3. Hugh of Saint-Victor in Leiden, Bibliotheek der Rijksuniversiteit, MS Vucanius 45, fol. 130 (thirteenth century).

On the open book appears the first sentence of the *Didascalicon*: 'Omnium expetendorum prima est sapientia, in qua perfecti boni forma consistit' ('Of all things to be sought, the first is that Wisdom in which the Form of the Perfect Good stands fixed').



Figure 4. *Philosophia est amor sapientiae*.

Boethius' Lady Philosophy in a manuscript of the *Consolatio*: Leipzig, Universitäts Bibliothek MS 1253, fol. 3r (c. 1230).

She is depicted with a ladder of the seven liberal arts – from *Grammatica* on the bottom rung, to *Astronomia* at the topmost – surmounted by the ‘wisdom’ of Holy Scripture. This image would have been welcome in the *Didascalicon*.



Figure 5. The Marriage of Philology and Mercury on the Quedlinberg Tapestry (fragment), The Quedlinberg Treasury (c. 1200).

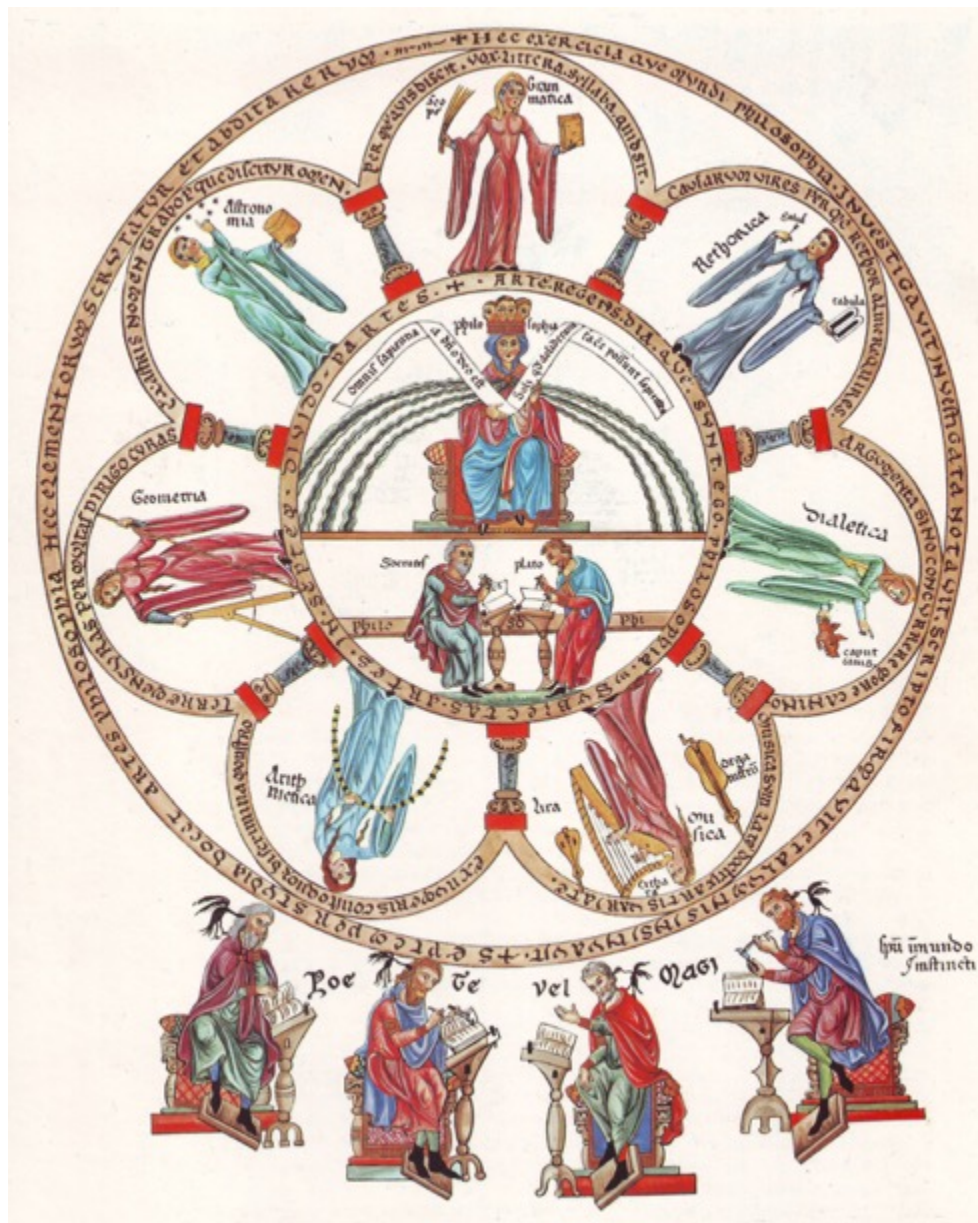


Figure 6. *Philosophia et septem artes liberales* as illustrated in the *Hortus deliciarum* ('Garden of Delights'), a manuscript compiled by Herrard of Landsberg at the Hohenberg Abbey in Alsace (begun 1167) – drawing heavily on earlier works like the *Didascalicon*. The manuscript was burned in 1870, but has been reconstructed from copies made earlier in the nineteenth century.

Perhaps influenced by Hugh's strictures in Book Three, 'poets or magicians' are shown seated beneath Philosophy and the liberal arts, beyond their formative influence. The text describes poets being guided by impure spirits (the black birds who whisper into their ears).



Figure 7. Possible portrait of Bernard Silvestris in Oxford, Bodleian Library, MS Digby 46, fol. 1v (c. 1350–1375).



Figure 8. Possible portrait of Bernard Silvestris (prefacing the *Cosmographia*) in Cambridge University Library, MS Kk.iv.25, fol. 118v (early thirteenth century).

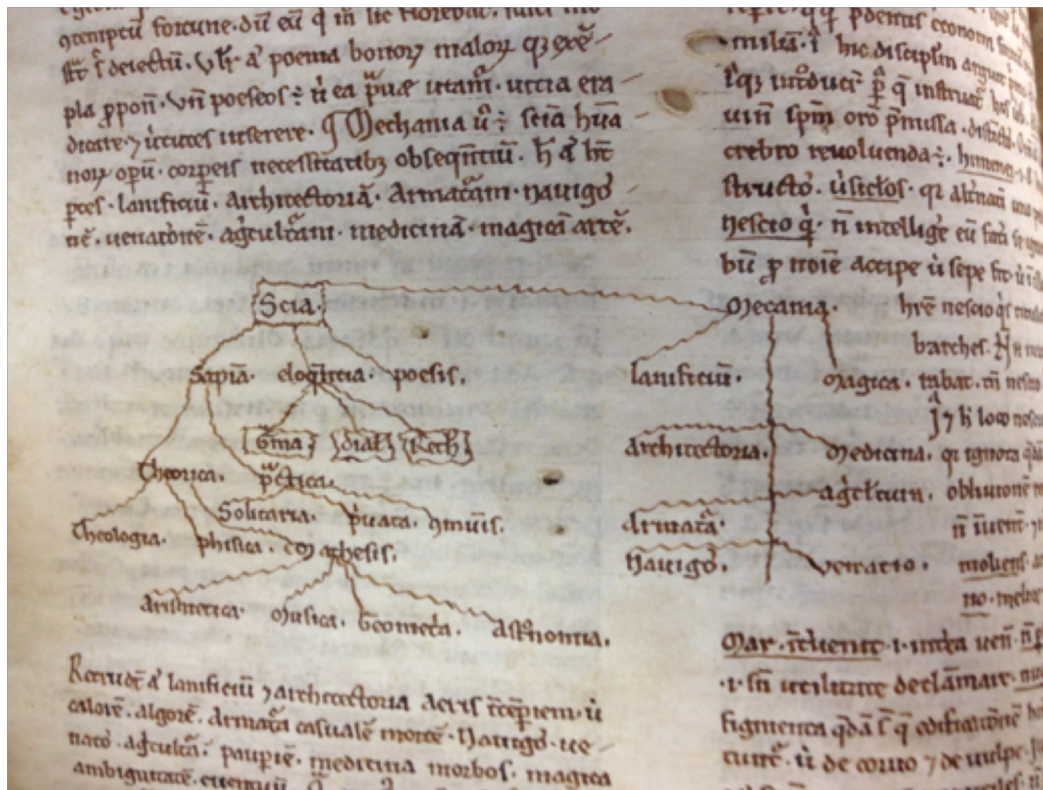
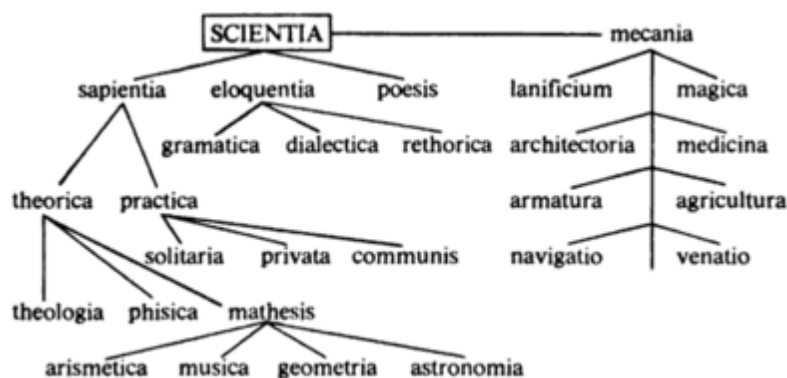


Figure 9. Diagram of *Scientia* in the Commentary on Martianus Capella's *De nuptiis Philologiae et Mercurii* attributed to Bernard Silvestris, in Cambridge, Cambridge University Library, MS Mm.I.18, fol. 5v (c. 1200-1220).



Facsimile by Haijo Jan Westra, *The Commentary on Martianus Capella's De nuptiis Philologiae et Mercurii Attributed to Bernardus Silvestris* (Toronto 1986), p. 81.



Figure 10. The cosmos according to Honorius Augustodunensis' *Clavis Physicae*, in Paris, Bibliothèque Nationale, MS Lat. 6734, fol. 3v (twelfth century).

The mass labelled 'materia informis' in the central roundel seems to resemble and perhaps helps us to imagine Bernard's personification of matter, *Silva*, 'yearning to emerge from her ancient confusion'. Unlike Honorius' work, Bernard's *Cosmographia* is not typically accompanied by an iconography and thus we have no direct representations of *Silva* herself.

Around *materia informis* are shown – from the top – the divine ideas; primordial causes (*tempus* and *locus*); the four elements with their inhabitants; and the *finis* of creation, Christ, who theatrically draws back curtains on the *imago mundi*.

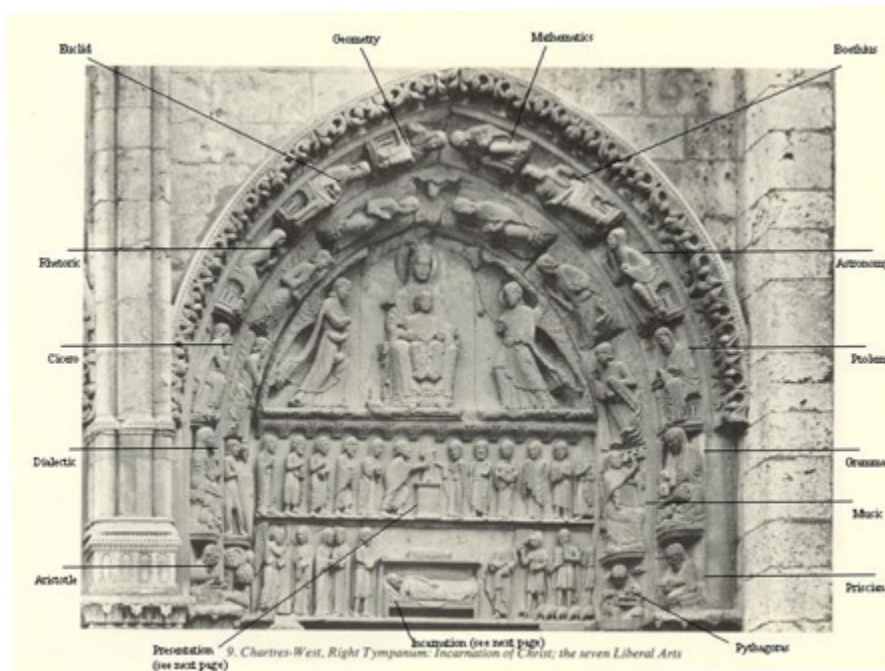


Figure 11. The only certain portrait of Alan of Lille, in dialogue with Peter the Chanter, in London, British Library, MS Add. 19767, fol. 217 (1228–1246).

The two men are likely to have been together in Paris for several years in the 1170s (discussed by Gillian Evans, *Alan of Lille*, pp. 25–33).



Figure 12. The south portal of the west façade of Chartres Cathedral, showing in its architraves the practitioners of the Liberal Arts, accompanied by female personifications above (like Alan and Martianus' *ancillae*) (c. 1144–1145).



The portal with labels by Randall B. Smith, taken from an article 'Christianity and the Liberal Arts in the University', *Crisis Magazine* (2012) <https://www.crisismagazine.com/2012/> [accessed 1 October 2018].

Here the practitioner of grammar is identified as Priscian rather than Donatus. Scholars flit between the two. I opt for Donatus, given the resonance with Alan's choice of practitioner. The label 'Mathematics', top right, should technically be 'Arithmetic'.



Figure 13. Donatus on the portal at Chartres (bottom right of figure 12).



Figure 14. Aristotle on the portal at Chartres (bottom left of figure 12).



Figure 15. Wisdom's Heavenly Journey in Alan of Lille's *Anticlaudianus*, from a German or Southern Bohemian manuscript: London, Wellcome Library, MS 49, fol. 68r (c. 1420).



Figure 16. *Deduccion Loable* ('Praiseworthy Composition') from *Les Douze Dames de Rhétorique*, in Cambridge University Library, MS Nn.3.2, fol. 36v (c. 1467).



Figure 17. Cicero on the portal at Chartres (near top left of the archivolt in figure 12).

Bibliography

Abbreviations

LCL Loeb Classical Library

Editions and Translations

Alexander Neckam, *Commentum super Martianum*, ed. by Christopher McDonough (Florence 2006).

Aristotle, *Physics*, trans. by F.M. Cornford and F. Wicksteed, LCL, 2 vols (Cambridge, MA 1957).

Augustine, *De doctrina christiana*, ed. by J. Martin (Turnhout 1962).

Augustine, *On Christian Teaching*, trans. by R. P. H. Green (Oxford 1997).

Augustine, *Confessions*, trans. by Henry Chadwick (Oxford 1991).

Barnes, Jonathan, ed., *The Complete Works of Aristotle*, The Revised Oxford Translation, Bollingen Series LXXI: 2, 2 vols (Princeton 1984).

Bernard of Chartres, *Glosae super Platonem*, ed. by P. E. Dutton (Toronto 1991).

Bernard Silvestris, *Cosmographia*, ed. and trans. by Winthrop Wetherbee (New York 1973).

Bernard Silvestris, *Cosmographia*, ed. by Peter Dronke (Leiden 1978).

Boethius, *The Consolation of Philosophy*, trans. by David R. Slavitt (Cambridge, MA 2008).

Bonaventure, 'De reductione artium ad theologiam', in *Doctoris seraphici s. Bonaventurae ... opera omnia*, 10 vols (Quaracchi 1890), 5: pp. 317–325.

Bonaventure, *De reductione artium ad theologiam*, IntraText Edition (copyright Éulogos 2007), IntraText Digital Library http://www.intratext.com/IXT/LAT0918/_P1.HTM.

Bonaventure, *On the Reduction of the Arts to Theology*, University of Virginia's College at Wise Online Library: <http://people.uvawise.edu/philosophy/phil205/Bonaventure.html>.

Calcidius, *On Plato's Timaeus*, ed. and trans. by John Magee (Cambridge, MA 2016).

Cicero, *On Invention, The Best Kind of Orator, Topics*, trans. by H. M. Hubbell, LCL 386 (Cambridge, MA 1949).

Cicero, *On the Orator*, ed. and trans. by E.W. Sutton and H. Rackham, LCL, 2 vols (Cambridge, MA 1942).

Cicero, *Tusculan Disputations*, trans. by J. E. King, LCL 141 (Cambridge, MA 1927).

Delisle, Leopold, *Inventaire des manuscrits de la Sorbonne conservés à la Bibliothèque Impériale* (Paris 1870).

Dominicus Gundissalinus, *De divisione philosophiae*, ed. by L. Baur (Münster 1903).

Earl G. Schreiber and Thomas E. Maresca, trans, *Commentary on the First Six Books of Virgil's Aeneid by Bernardus Silvestris* (London 1974).

Faral, Edmond, *Les artes poétiques du XIIe et du XIIIe siècle* (Paris 1923).

Gallo, Ernest, ed., *The Poetria nova and its Sources in Early Rhetorical Doctrine* (Paris 1971).

Geoffrey of Vinsauf, *Documentum de modo arte dictandi et versificandi*, trans. by Roger P. Parr (Milwaukee 1968).

Geoffrey of Vinsauf, *Poetria nova*, trans. by Margaret F. Nims (Toronto 2010).

Gervase of Melkley, *Ars poetica*, ed. by H.-J. Gräbener (Münster 1965).

Goethe, Johann Wolfgang, *The Complete Goethe*, ed. by Matthew Bell (Princeton 2016).

Halm, Karl, ed., *Rhetores Latini Minores* (Leipzig 1863).

Homer, *Iliad*, trans. by A. T. Murray, rev. by William F. Wyatt, LCL, 2 vols (Cambridge, MA 1924).

Horace, *Satires, Epistles, The Art of Poetry*, trans. by H. Rushton Fairclough, LCL 194 (Cambridge, MA 1926).

Hugh of Saint-Victor, *Didascalicon: De Studio Legendi*, ed. by Charles Henry Buttimer (Washington, D. C. 1939).

John of Garland, *Parisiana poetria*, ed. and trans. by T. Lawler (New Haven 1974).

John of Salisbury, *Metalogicon*, ed. by John Barrie Hall and K. S. B. Keats-Rohan, Corpus Christianorum Continuatio Mediaevalis XCVIII (Turnhout 1991).

John of Salisbury, *Metalogicon*, trans. by Daniel D. McGarry (Philadelphia 2009).

John of Hauville, *Architrenius*, ed. and trans. by Winthrop Wetherbee, (Cambridge, UK 1994).

Jones, Julian Ward and Elizabeth Frances Jones, eds, *Commentum Super Sex Libros Eneidos Virgilii* (London 1977).

Lehmann-Brockhaus, Otto, *Lateinische Schriftenquellen zur Kunst in England, Wales, und Schottland vom Jahre 901 bis zum Jahre 1307*, 5 vols (Munich 1956).

Lutz, Cora, ed., *Iohannis Scotti: Annotationes in Marcianum* (Cambridge, MA 1939).

Lutz, Cora, ed., *Remigii Autissiodorensis: Commentum in Martianum Capellam Libri I-II* (Leiden 1962).

Macrobius, *Opera*, ed. by James Willis, 2 vols (Leipzig 1970).

Matthew of Vendôme, *Ars Versificatoria*, trans. by Roger P. Parr (Milwaukee 1981).

Merleau-Ponty, Maurice, *The Essential Writings of Merleau-Ponty*, ed. by Alden L. Fisher (New York 1969).

Munari, Franco, ed., *Mathei Vindocinensis Opera*, 3 vols (Rome 1977–1978).

Ovid, *Metamorphoses*, trans. by Frank Justus Miller, rev. by G. P. Goold LCL, 2 vols (Cambridge, MA 1916).

Plato, *Euthyphro*, *Apology*, *Crito*, *Phaedo*, *Phaedrus*, trans. by Harold North Flower, LCL 36 (Cambridge, MA 1914).

Plato, *Timaeus*, trans. by R. G. Bury, LCL 234 (Cambridge, MA 1929).

Quintilian, *The Orator's Education*, ed. and trans. by Donald A. Russell, LCL, 5 vols (Cambridge, MA 2001).

Richard of Saint-Victor, *The Twelve Patriarchs*, *The Mystical Ark*, *Book Three of the Trinity*, trans. by Gover A. Zinn (New York 1979).

Robert Kilwardby, *De ortu scientiarum*, ed. by Albert G. Judy (Oxford 1976).

Stahl, William Harris, Richard Johnson and E. L. Burge, eds and trans, *Martianus Capella and the Seven Liberal Arts*, 2 vols (New York 1971), 2.

Taylor, Jerome, trans., *The Didascalicon of Hugh of Saint-Victor: A Medieval Guide to the Arts* (New York 1961).

Thomas Aquinas, *Sentencia libri De anima*, ed. by Enrique Alarcón for The Corpus Thomisticum Project: <http://www.corpusthomisticum.org/wintroen.html>.

Westra, Haijo Jan, ed., *The Commentary on Martianus Capella's De nuptiis Philologiae et Mercurii Attributed to Bernardus Silvestris* (Toronto 1986).

Wetherbee, Winthrop, ed. and trans., *Alan of Lille: Literary works* (Cambridge, MA 2013).

Wetherbee, Winthrop, ed. and trans., *Bernardus Silvestris: Poetic works* (Cambridge, MA 2015).

William of Conches, *Glosae super Platonem*, ed. by Édouard Jeuneau (Turnhout 2006).

Willis, James, ed., *Martianus Capella*, Bibliotheca scriptorum Graecorum et Romanorum Teubneriana (Leipzig 1983).

Wright, Thomas, ed., ‘Metamorphosis Goliae Episcopi’, in *Latin Poems Attributed to Walter Mapes* (London 1841), pp. 21-30.

Secondary Works

Ackerman, James S., ‘“Ars Sine Scientia Nihil Est”: Gothic Theory of Architecture at the Cathedral of Milan’, *Art Bulletin*, 31 (1949), pp. 84-111.

Alessio, Franco, ‘La filosofia e le “artes mechanicae” nel secolo XII’, *Studi Medievali* ser. 3, 6 (1965), pp. 110-129.

Baldwin, Charles Sears, *Medieval Rhetoric and Poetic (to 1400) Interpreted from Representative Works* (New York 1928).

Bardzell, Jeffrey, *Speculative Grammar and Stoic Language Theory in Medieval Allegorical Narrative: From Prudentius to Alan of Lille* (New York 2009).

Barnouw, Jeffrey, *Odysseus, Hero of Practical Intelligence: Deliberation and Signs in Homer’s Odyssey* (Lanham, MD 2004).

Benton, John F., ‘Philology’s Search for Abelard in the *Metamorphosis Goliae*’, *Speculum* 50 (1975), pp. 199-217.

Bertucci, Paola, *Artisanal Enlightenment: Science and the Mechanical Arts in Old Regime France* (New Haven 2017).

Binski, Paul, ‘Working by Words Alone: The architect, scholasticism and rhetoric’ in *Rhetoric Beyond Words: Delight and Persuasion in the Arts of the Middle Ages*, ed. by Mary Carruthers (Cambridge, UK 2010), pp. 14-51.

Binski, Paul, *Gothic Wonder: Art Artifice and the Decorated Style, 1290-1350* (Cambridge, MA 2014).

Binski, Paul, ‘Notes on Artistic Invention in Gothic Europe’, *Intellectual History Review* 24, 3 (2014), pp. 283-300.

Binski, Paul, ‘Medieval Invention and its Potencies’, *British Art Studies* 6 (2017), at <https://doi.org/10.17658/issn.2058-5462/issue-06/pbinski>.

Broadie, Sarah, *Nature and Divinity in Plato's Timaeus* (New York, 2012).

Brown, Catherine, *Contrary Things: Exegesis, Dialectic, and the Poetics of Didacticism* (Stanford 1998).

Brown, Cynthia, 'A Late Medieval Cultural Artifact: The Twelve Ladies of Rhetoric (*Les douze dames de rhétorique*)', *Allegorica: A Journal of Medieval and Renaissance Literature* 16 (1995), pp. 73–105.

Brown, Peter, *Power and Persuasion in Late Antiquity: Towards a Christian Empire* (London 1992).

Cameron, Alan, *The Last Pagans of Rome* (Oxford 2011).

Carruthers, Mary, 'The Poet as Master Builder: Composition and Locational Memory in the Middle Ages', *New Literary History* 24, 4 (1993), pp. 881–904.

Carruthers, Mary, *The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400–1200* (Cambridge, UK 1998).

Carruthers, Mary, *The Book of Memory: A Study of Memory in Medieval Culture* (Cambridge, UK 2008).

Carruthers, Mary, 'The Concept of *Ductus*, or, Journeying through a Work of Art', in *Rhetoric Beyond Words*, ed. by Mary Carruthers (Cambridge, UK 2010), pp. 190–213.

Carruthers, Mary, *The Experience of Beauty in the Middle Ages* (Oxford 2013).

Chenu, M.-D., 'Civilisation urbaine et théologie : L'école de Saint-Victor au XII^e siècle', *Annales. Économies, Sociétés, Civilisations* 29 (1974), pp. 1253–1264.

Chico, Tita, *The Experimental Imagination: Literary Knowledge and Science in the British Enlightenment* (Stanford 2018).

Cleaver, Laura, *Education in Twelfth-Century Art and Architecture* (Woodbridge, UK 2016).

Clerval, Jules Alexandre, *Les écoles de Chartres au moyen âge, du v^e siècle au xvi^e siècle* (Chartres 1895).

Clerval, Jules Alexandre, *Les écoles de Chartres au moyen âge, du xi^e siècle* (Chartres 1893).

Collingwood, Robin George, *The Principles of Art* (Oxford 1938).

Connors, Catherine, 'Field and Forum: Culture and Agriculture in Roman Rhetoric', in *Roman Eloquence: Rhetoric in Society and Literature*, ed. by William J. Dominik (London 1997), pp. 71–89.

Coolman, Boyd Taylor, *The Theology of Hugh of St. Victor: An Interpretation* (Cambridge, UK 2010).

- Cooper, Lisa H., *Artisans and Narrative Craft in Late Medieval England* (Cambridge, UK 2014).
- Copeland, Rita and Ineke Shuiter, eds, *Medieval Grammar and Rhetoric: Language Arts and Literary Theory*, (Oxford 2012).
- Copeland, Rita and Peter T. Struck, *The Cambridge Companion to Allegory* (Cambridge, UK 2010).
- Copeland, Rita, *Criticism and Dissent in the Middle Ages* (Cambridge, UK 2008).
- Cowling, David, *Building as Text: Architecture as Metaphor in Late Medieval and Early Modern France* (Oxford 1998).
- Cowling, David, 'Verbal and Visual Metaphors in the Cambridge Manuscript of the *Douze Dames de Rhétorique* (1463)', *Journal of the Early Book Society* 4, ed. by Martha W. Driver (2000), pp. 94–118.
- Curtius, Ernst, *European Literature and the Latin Middle Ages*, trans. by Willard R. Trask, Bollingen Series XXXVI (Princeton 1983).
- D'Alverny, Marie-Thérèse, *Études sur le symbolisme de la Sagesse et sur l'iconographie*, ed. by Charles Burnett (Aldershot 1993).
- Dane, J. A., 'Integumentum as Interpretation: a note on William of Conches' commentary on Macrobius', *Classical Folia* 32 (1978), pp. 201–215.
- De Bruyne, Edgar, *The Esthetics of the Middle Ages*, trans. by Eileen B. Hennessey (New York 1969).
- Detienne, Marcel and Jean-Pierre Vernant, *Cunning Intelligence in Greek Culture and Society* (Chicago 1974).
- Dronke, Peter, *The Medieval Lyric* (Cambridge, UK 1968).
- Dronke, Peter, *Poetic Individuality in the Middle Ages: New Departures in Poetry 1100-1500* (Oxford 1970).
- Dronke, Peter, *Fabula: Explorations into the Uses of Myth in Medieval Platonism* (Leiden 1974).
- Dronke, Peter, *The Medieval Poet and His World* (Rome 1984).
- Dutton, Paul Edward, 'Medieval Approaches to Calcidius', in *Plato's Timaeus as Cultural Icon*, ed. by Gretchen J. Reydam-Schils (Notre Dame, IN 2003), pp. 183–205.
- Eco, Umberto, *Art and Beauty in the Middle Ages*, trans. by Hugh Bredin (New Haven 1986; originally published as a single chapter in a four-volume handbook to medieval aesthetics, 'Sviluppo dell'estetica medievale', in *Momenti e problemi di storia dell'estetica*, 4 vols, 1: pp. 115–230, Milan 1959).

Economou, George D., *The Goddess Natura in Medieval Literature* (Cambridge, MA 1972).

Erismann, Christophe, 'Latin Philosophy to 1200', in *The Oxford Handbook of Medieval Philosophy*, ed. by John Marenbon (Oxford 2012), pp. 167–191.

Evans, Gillian R., *Alan of Lille: The Frontiers of Theology in the Later Twelfth Century* (Cambridge, UK 1983).

Evans, Gillian R., *Old Arts and New Theology: The Beginnings of Theology as an Academic Discipline* (Oxford 1980).

Evans, Michael, 'Personifications of the *Artes* from Martianus Capella up to the End of the Fourteenth Century' (Unpublished PhD thesis, University of London 1970).

Evans, Michael, 'The *Ysagoge in Theologiam* and the Commentaries Attributed to Bernard Silvestris', *Journal of the Warburg and Courtauld Institutes* 54 (1991), pp. 1–42.

Faral, Edmund, *Les arts poétiques du XIIIe et du XIVe siècle* (Paris 1923; reprinted Paris 1958).

Ferruolo, Stephen, *The Origins of the University, The Schools of Paris and their Critics, 1100–1215* (Stanford 1985).

Fields, Peter J., *Craft and Anti-Craft in Chaucer's Canterbury Tales* (Lewiston, NY 2001).

Fletcher, Angus, *Allegory: The Theory of a Symbolic Mode* (Princeton 2012; first publ. Ithaca, NY 1964).

Friedman, Russell, 'Latin Philosophy 1200–1350', in *The Oxford Handbook of Medieval Philosophy*, ed. by John Marenbon (Oxford 2012), pp. 192–219.

Froehlich, Karlfried, with the collaboration of Mark S. Burrows, *Sensing the Scriptures: Aminadab's Chariot and the Predicament of Biblical Interpretation* (Grand Rapids, MI 2014).

Gehl, Paul, 'Mystical Language Models in Monastic Educational Psychology', *Journal of Medieval and Renaissance Studies* 14 (1984), pp. 219–243.

Gell, Alfred, 'The Technology of Enchantment and the Enchantment of Technology', in *Anthropology, Art and Aesthetics*, ed. by Jeremy Coote and Anthony Shelton (Oxford 1992), pp. 40–63.

Gersh, Stephen, 'Eriugena's *Ars Rhetorica* – Theory and Practice', in *Ioannes Scottus Eriugena: The Bible and Hermeneutics: Proceedings of the Ninth International Colloquium of the Society for the Promotion of Eriugenian Studies Held at Leuven and Louvain-La-Neuve, June 7–10, 1995*, ed. by Gerd Van Riel, Carlos Steel and James McEvoy (Leuven 1996), pp. 261–278.

Gibson, Margaret, 'The Study of the *Timaeus* in the Eleventh and Twelfth Centuries', *Pensamiento* 25 (1969), pp. 183–194.

Gillespe, Vincent, 'From the twelfth century to c. 1450', in *The Cambridge History of Literary Criticism, Volume II: The Middle Ages*, ed. by Alastair Minnis and Ian Johnson (Cambridge, UK 2005), pp. 145–235.

Grabar, Oleg, *The Mediation of Ornament* (Princeton 1992).

Grabowski, Frank, 'Plato: *The Timaeus*', *The Internet Encyclopaedia of Philosophy: A Peer-Reviewed Academic Resource*. <http://www.iep.utm.edu/> [accessed 27 May 2018].

Grand-Clément, Adeline, 'La bigarrure cosmique', in *Poikilia: Variazione sul tema*, ed. by D. Micalèlla, Elisabetta Berrardi and Francisco Lisi (Rome 2009), pp. 167–179.

Grand-Clément, Adeline, *La Fabrique des couleurs: Histoire du paysage sensible des Grecs anciens* (Paris 2011).

Grand-Clément, Adeline, 'Poikilia', in *The Blackwell Companion to Ancient Aesthetics*, ed. by Pierre Destrée and Penelope Murray (Chichester, UK 2015), pp. 406–421.

Gregory, Tullio, 'The Platonic Inheritance', in *A History of Twelfth-Century Western Philosophy*, ed. by Peter Dronke (Cambridge, UK 1988), pp. 54–80.

Hadot, Pierre, *Philosophy as a Way of Life* (Oxford 1995).

Hadot, Pierre, *The Veil of Isis: An Essay on the History of the Idea of Nature*, trans. by Michael Chase (Cambridge, MA 2006; originally published as *Le Voile d'Isis*, Paris 2004).

Hamburger, Jeffrey F. and Anne-Marie Bouché, *The Mind's Eye: Art and Theological Argument in the Middle Ages* (Princeton 2006).

Hauréau, Barthélemy, 'Maitre Bernard', *Bibliothèque de l'École des Chartres* 54 (1893), pp. 792–794.

Hicks, Andrew, 'Martianus Capella and the Liberal Arts', in *The Oxford Handbook of Medieval Latin Literature*, ed. by Ralph Hexter and David Townsend (New York 2012), pp. 307–334.

Ingold, Tim, 'The Textility of Making', *Cambridge Journal of Economics* 34 (2010), pp. 91–102.

Jacques le Goff, *Time, Work and Culture*, trans. by Arthur Goldhammer (Chicago 1980).

Jaeger, Stephen, *The Envy of Angels: Cathedral Schools and Social Ideals in Medieval Europe, 950–1200* (Philadelphia 1994).

Jauneau, Édouard, 'L'usage de la notion d'*integumentum* à travers les gloses de Guillaume de Conches', *Archives d'Histoire Doctrinale Et Littéraire du Moyen Âge* 24 (1957), pp. 35–100.

Jauneau, Édouard, 'Notes sur l'École de Chartres', *Studi medievali* 5 (1964), pp. 845–850.

Jauneau, Édouard, *Rethinking the School of Chartres* (Toronto 2009).

Johnson, Eleanor, *Practicing Literary Theory in the Middle Ages: Ethics and the Mixed Form in Chaucer, Gower, Usk, and Hoccleve* (Chicago 2013).

Joyner, Danielle, *Painting the Hortus Deliciarum: Medieval Women, Wisdom, and Time* (Philadelphia 2016).

Jung, Marc-René, 'Études sur le poème allégorique en France au moyen âge', *Romanica Helvetica* 82 (Bern 1971).

Karnes, Michelle, *Imagination, Meditation, and Cognition in the Middle Ages* (Chicago 2011).

Kaske, Robert Earl, *Medieval Christian Literary Imagery: A Guide to Interpretation*, Toronto Medieval Bibliographies 11 (Toronto 1988).

Katzenellenbogen, Adolf, 'The Representation of the Seven Liberal Arts', in *Twelfth Century Europe and the Foundations of Modern Society*, ed. by Marshall Clagett, Gaines Post, and Robert Reynolds (London 1966), pp. 35-59.

Kauntze, Mark, *Authority and Imitation: A Study of the Cosmographia of Bernard Silvestris* (Leiden 2014).

Kelly, Douglas, 'The Scope of the Treatment of Composition in the Twelfth and Thirteenth-Century Arts of Poetry', *Speculum* 41 (1966), pp. 261-78.

Kelly, Douglas, *The Arts of Poetry and Prose* (Turnhout 1991).

Klibansky, Raymond, 'The School of Chartres', in *Twelfth-Century Europe and the Foundation of Modern Society*, ed. by Marshall Clagett, Gaines Post and Robert Reynolds (Madison 1961), pp. 3-14.

Knox, Phil, Jonathan Morton, and David Reeve, eds, *Medieval Thought Experiments: Poetry, Hypothesis, and Experience in the Middle Ages* (Turnhout; forthcoming 2018) http://www.brepols.net/Pages/ShowProduct.aspx?prod_id=IS-9782503576213-1 [accessed 6 August 2018].

Kumler, Aden, *Translating Truth: Ambitious Images and Religious Knowledge in Late Medieval France and England* (New Haven 2011).

Laistner, Max L. W., 'Notes on Greek from the Lectures of a Ninth Century Monastery Teacher', *Bulletin of the John Rylands Library* 7 (1922-1923), pp. 421-456.

Landes, David S., *The Unbound Prometheus: Technological Change and Industrial Development in Western Europe from 1750 to the Present* (Cambridge, UK 1969).

Langlois, Charles-Victor, 'Questions d'histoire littéraire: Maître Bernard', *Bibliothèque de l'École des Chartres* 54 (1893), pp. 225-250.

Leach, Elizabeth Eva, 'Nature's Forge and Mechanical Reproduction: Writing, Reading and Performing Song' in *Rhetoric Beyond Words: Delight and Persuasion in the Arts of the Middle Ages*, ed. by Mary Carruthers (Cambridge, UK 2013), pp. 72-95.

Le Goff, Jacques, *Intellectuals in the Middle Ages* (Oxford 1957).

Le Goff, Jacques, *The Medieval Imagination*, trans. by Arthur Goldhammer (Chicago 1988; originally published as *L'Imaginaire medieval*, Paris 1985).

Lefebvre des Noëttes, Richard, *La force motrice animale à travers les âges* (Paris 1924).

Lewis, C. S., *The Allegory of Love: A Study in Medieval Tradition* (Cambridge, UK 2013; first publ. 1936).

Lewis, C. S., *The Discarded Image: An Introduction to Medieval and Renaissance Literature* (Cambridge, UK 2012; first publ. 1964).

Lewis, Charlton T., and Charles Short, *A Latin Dictionary* (Oxford 1879) at Perseus Digital Library ed. by Gregory R. Crane, Tufts University <http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0060:entry=expeditus> [accessed 1 October 2018].

Livesey, Steven J., 'The Subalternation of the Sciences' in *Theology and Science in the Fourteenth Century: Three Questions on the Unity and Subalternation of the Sciences from John of Reading's Commentary on the Sentences* (Leiden 1989), pp. 20–53.

Lomperis, Linda, 'From God's Book to the Play of the Text in the *Cosmographia*', *Medievalia et Humanistica: Studies in Medieval and Renaissance Culture* 16, ed. by Paul Maurice Clogan (Totowa, NJ 1988), pp. 51–57.

Lynch, Kathryn, *The High Medieval Dream Vision: Poetry, Philosophy, and Literary Form* (Stanford 1998).

Maierù, Alfonso, 'Robert Kilwardby on the Division of the Sciences' in *A Companion to the Philosophy of Robert Kilwardby*, ed. by Henrik Lagerlund and Paul Thom (Leiden 2013), pp. 353–390.

Marenbon, John, *Pagans and Philosophers: The Problem of Paganism from Augustine to Leibniz* (Princeton 2015).

Marshall, Linda E., 'The Identity of the "New Man" in the "Anticlaudianus" of Alan of Lille, *Viator* 10 (1979), pp. 77–94.

Meier, Christel, 'Die Rezeption des *Anticlaudianus* Alans von Lille in Textkommentierung und Illustration', in *Text und Bild: Aspekte des Zusammenwirkens zweier Künste in Mittelalter undfrüher Neuzeit*, ed. by Christel Meier (Wiesbaden 1980), pp. 408–549.

Minnis, Alastair, *Medieval Theory of Authorship: Scholastic Literary Attitudes in the Later Middle Ages*, 2nd edn (Philadelphia 1988).

Mitcham, Carl, *Thinking Through Technology: the Path between Engineering and Philosophy* (Chicago 1994).

Morrow, Glenn R., 'Necessity and Persuasion in Plato's *Timaeus*', *Philosophical Review* 59, 2 (1950), pp. 147–163.

Morton, Jonathan, 'Ingenious Genius: Invention, Creation, Reproduction in the High Middle Ages', *L'Esprit Créateur* 55, 2 (Summer 2015), pp. 4–19.

Morton, Jonathan, *The Roman de la Rose in its Philosophical Context* (Oxford 2018).

Moser, Thomas, *A Cosmos of Desire: The Medieval Latin Erotic Lyric in English Manuscripts* (Ann Arbor 2004).

Murphy, James J., 'Aristotle's Rhetoric in the Middle Ages', *Quarterly Journal of Speech* 52, 2 (1966), pp. 109–115.

Murphy, James J., 'The arts of poetry and prose' in *The Cambridge History of Literary Criticism, Volume II: The Middle Ages*, ed. by Alastair Minnis and Ian Johnson (Cambridge, UK 2008), pp. 42–67.

Murphy, James J., *Rhetoric in the Middle Ages: A History of Rhetorical Theory from Saint Augustine to the Renaissance* (Berkeley 1974).

Murray, Alexander, *Reason and Society in the Middle Ages* (Oxford 1978).

Murray, Penelope, 'Poetic Inspiration', in *The Blackwell Companion to Ancient Aesthetics*, ed. by Pierre Destrée and Penelope Murray (Chichester, UK 2015), pp. 158–174.

Murray, Penelope, *Classical Literary Criticism* (London 2000; first publ. 1965).

Nederman, Cary J., 'Aristotelian Ethics before the *Nicomachean Ethics*: Alternate Sources of Aristotle's Concept of Virtue in the Twelfth Century', *Parergon* 7 (1989), pp. 55–75.

Newman, Barbara, *God and the Goddesses: Vision, Poetry, and Belief in the Middle Ages* (Philadelphia 2003).

Nuchelmans, Gabriel, 'Philologiae et son mariage avec Mercure jusqu'à la fin du XIIe siècle', *Latonus* 16 (1957), pp. 84–107.

Otten, Willemien, 'Plato and the Fabulous Cosmogony of William of Conches' in *The Winged Chariot: Collected Essays on Plato and Platonism in Honour of L.M. de Rijk*, ed. by Maria Kardaun and Joke Spruyt (Leiden 2000), pp. 185–204.

Ovitt, George, 'The Status of the Mechanical Arts in Medieval Classifications of Learning', *Viator* 14 (1983), pp. 89–106.

Panofsky, Erwin, *Gothic Architecture and Scholasticism* (Latrobe, PA 1951).

Panofsky, Erwin, *Idea: A Concept in Art Theory* (New York 1960; originally published in German as *Idea: Ein Beitrag zur Begriffsgeschichte der alteren Kunsttheorie*, Leipzig 1924).

Parry, Richard, 'Episteme and Techne', *The Stanford Encyclopaedia of Philosophy* (Fall 2014 Edition), ed. by Edward N. Zalta. URL = <https://plato.stanford.edu/archives/fall2014/entries/episteme-techne/> [accessed 16 July 2018].

Pranger, M. B., *The Artificiality of Christianity: Essays on the Poetics of Monasticism* (Stanford 2003).

Preminger, Alex, O. B. Hardison and Kevin Kerrane, eds, *Medieval Literary Criticism: Translations and Interpretations* (New York 1974).

Purcell, William Michael, *Ars Poetriae: Rhetorical and Grammatical Invention at the Margin of Literacy* (Columbia 1996).

Ramelli, Ilaria, 'Eriugena's Commentary on Martianus in the Framework of his Thought and the Philosophical Debate of his Time' in *Carolingian Scholarship and Martianus Capella: Ninth-Century Commentary Traditions on 'De Nuptiis' in Context*, ed. by Mariken Teeuwen and Sinead O'Sullivan (Turnhout 2011), pp. 245–272.

Robertson, Kellie, *Nature Speaks: Medieval Literature and Aristotelian Philosophy* (Philadelphia 2017).

Rorem, Paul, *Hugh of Saint Victor* (Oxford 2009).

Rudolph, Conrad, *The Mystic Ark: Hugh of Saint Victor, Art, and Thought in the Twelfth Century* (Cambridge, UK 2014).

Sandywell, Barry, *The Beginnings of European Theorizing: Reflexivity in the Archaic Age*, 3 vols (London 1996).

Saunders, Corrine J., *The Forest of Medieval Romance* (Cambridge, UK 1993).

Sedley, David, *Creationism and its Critics in Antiquity* (Berkeley 2008).

Simpson, James, 'The Economy of Involucrum: Idleness in *Reason and Sensuality*', in *Through a Classical Eye: Transcultural and Transhistorical Visions in Medieval English, Italian, and Latin Literature in Honour of Winthrop Wetherbee*, ed. by Andrew Galloway and R. F. Yeager (Toronto 2009), pp. 390–412.

Simpson, James, *Sciences and the Self in Medieval Poetry: Alan of Lille's Anticlaudianus and John Gower's Confessio amantis* (Cambridge, UK 1995).

Smalley, Beryl, *The Study of the Bible in the Middle Ages* (Chicago 1989).

Smolak, Kurt, 'Two 12th century-commentaries on Martianus Capella and Virgil', *Weiner Studien* 126 (2013), pp. 249–260.

Somafi, Anna, 'The Eleventh-Century Shift in the Reception of Plato's *Timaeus* and Calcidius's Commentary', *Journal of the Warburg and Courtauld Institutes* 65 (2002), pp. 1–21.

Southern, Richard W., 'Humanism and the School of Chartres', in *Medieval Humanism and Other Studies* (Oxford 1970), pp. 61–85.

Southern, Richard W., 'The Schools of Paris and the School of Chartres' in *Renaissance and Renewal in the Twelfth Century*, ed. by Giles Constable and Robert L. Benson (Oxford 1982), pp. 113–137.

Speer, Andreas, 'The Discovery of Nature: The Contribution of the Chartrians to Twelfth-Century Attempts to Found a *Scientia Naturalis*', *Traditio* 52 (1997), pp. 135–151.

Stahl, William Harris, 'To a Better Understanding of Martianus Capella', *Speculum* 40, 1 (1965), pp. 102–115.

Stock, Brian, *Myth and Science in the Twelfth Century: A Study of Bernard Silvester* (Princeton 1972).

Summers, David, *The Judgement of Sense: Renaissance Naturalism and the Rise of Aesthetics* (Cambridge, UK 1987).

Sweeney, Eileen, 'Hugh of Saint Victor: The Augustinian tradition of sacred and secular reading revised', in *Reading and Wisdom: The De Doctrina Christiana of Augustine in the Middle Ages*, ed. by Edward D. English (Notre Dame 1995), pp. 61–83.

Sweeney, Eileen C., *Logic, Theology and Poetry in Boethius, Anselm, Abelard and Alan of Lille* (New York 2006).

Tezmen-Siegel, Jutta, *Die Darstellungen der septem artes liberales in der Bildenden Kunst als Rezeption der Lehrplangeschichte* (Munich 1985).

Thorpe, Lewis, *The History of the Franks* (London 1974).

Tobin, Rosemary Barton, 'The Cornifician motif in John of Salisbury's *Metalogicon*', *History of Education* 13 (1984), pp. 1–6.

Truitt, Ellie R., *Medieval Robots: Mechanism, Magic, Nature, and Art* (Philadelphia 2015).

Vessey, Mark, 'From Cursus to Ductus: Figures of Writing in Western Late Antiquity (Augustine, Jerome, Cassiodorus, Bede)', in *European Literary Careers*, ed. by Patrick Gerard Cheney and Frederick A. de Armas (Toronto 2002), pp. 47–103.

Waddell, Helen, *The Wandering Scholars* (London 1927).

Walker Bynum, Caroline, *Metamorphosis and Identity* (New York 2001).

Walsh, George B., *The Varieties of Enchantment: Early Greek Views on the Nature and Function of Poetry* (Chapel Hill 1984).

Wei, Ian P., *Intellectual Culture in Medieval Paris: Theologians and the University c. 1100–1330* (Cambridge, UK 2012).

Wetherbee, Winthrop, *Platonism and Poetry in the Twelfth Century: The Literary Influence of the School of Chartres* (Princeton 1972).

Wetherbee, Winthrop, 'Philosophy, Cosmology and the Twelfth-Century Renaissance' in *A History of Twelfth-Century Western Philosophy*, ed. by Peter Dronke (Cambridge, UK 1988), pp. 21-53.

Wetherbee, Winthrop, 'Philosophy, Commentary, and Mythic Narrative in Twelfth-Century France' in *Interpretation and Allegory: Antiquity to the Modern Period*, ed. Jon Whitman (Leiden 2000), pp. 211-230.

Wetherbee, Winthrop, 'Learned Mythography: Plato and Martianus Capella', in *The Oxford Handbook of Medieval Latin Literature*, ed. by Ralph Hexter and David Townsend (New York 2012), pp. 335-355.

White, Lynn, 'Historical Roots of our Ecologic Crisis', *Science*, New Series, 155, 3767 (1967), pp. 1203-1207.

White, Lynn, *Medieval Religion and Technology: Collected Essays* (Berkeley 1978).

Whitman, Jon, *Allegory: The Dynamics of an Ancient and Medieval Technique* (Cambridge, MA 1987).

Whitney, Elspeth, 'Paradise Restored: The Mechanical Arts from Antiquity through the Thirteenth Century', *Transactions of the American Philosophical Society* 80, Part 1 (1990), pp. 1-169.

Woods, Marjorie Curry, *Classroom Commentaries: Teaching the Poetria nova across Medieval and Renaissance Europe* (Columbus 2010).

Zeeman, Nicolette, 'Mythography and Mythographical Collections', in *The Oxford History of Classical Reception in English Literature. Volume 1: 800-1558*, ed. by Rita Copeland (Oxford 2016), pp. 212-250.

Zeeman, Nicolette, 'The Schools Give a License to Poets', in *Criticism and Dissent in the Middle Ages*, ed. by Rita Copeland (Cambridge, UK 1996), pp. 151-180.

Ziolkowski, Jan, 'Virgil', in *The Oxford History of Classical Reception in English Literature, Volume I: 800-1558*, ed. by Rita Copeland (Oxford 2016), pp. 165-186.

Ziolkowski, Jan, *Alan of Lille's Grammar of Sex: The Meaning of Grammar to a Twelfth-Century Intellectual* (Cambridge, MA 1985).